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ABSTRACT

A state/federal-funded project for the development of a coordinated curriculum development and management plan was carried out in Alabama in 1977-79 and was titled VO-ED COMP (Vocational Education Curriculum Operation--Management Plan). The proposed model consisted of twelve steps: (1) identification of needs, (2) instructional material priority determination, (3) establishment of curriculum standards and policies, (4) state approval, (5) material review, (6) adaptation, development or procurement of materials, (7) pilot or field test, (8) printing or production, (9) dissemination/diffusion, (10) local utilization, (11) evaluation, and (12) recycling. An operation and management plan for administration of the model was outlined; functions of the Curriculum Development Unit (CDU) and its committees, units, and positions were delineated; staffing patterns and positions were indicated; and a pre-service/in-service professional development plan for vocational curriculum personnel was recommended. The latter plan advocated utilization of the Vocational Education Curriculum Specialist Materials developed by the American Institutes for Research, Palo Alto, California. (Author/CT)

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A VOCATIONAL EDUCATION CURRICULUM OPERATION AND MANAGEMENT PLAN AND MODEL FOR ALABAMA

PROJECT NO: AL-RD2-A7-029

Publication #6 of

Project VO-ED COMP
(Vocational Education Curriculum Operation--Management Plan)

BEST COPY AVAILABLE

by

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The Division of Vocational Education
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ABSTRACT

This publication reports a major aspect of the State/Federal funded project VO-ED COMP--Vocational Education Curriculum Operation-Management Plan, which was carried out in Alabama in 1977-79. The objective of this segment of the project was to develop a coordinated curriculum development and management plan for vocational-technical education in Alabama. The rationale, definition of terms and assumptions were contained in the first section; the proposed model consisted of 12 steps: (A) Identification of Needs, (B) Instructional Material Priority Determination, (C) Establishment of Curriculum Standards and Policies, (D) State Approval, (E) Material Review, (F) Adaptation, Development or Procurement of Materials, (G) Pilot or Field Test, (H) Printing or Production, (I) Dissemination/Diffusion, (J) Local Utilization, (K) Evaluation, and (L) Recycling.

An Operational and Management Plan for administration of the model was outlined, functions of the Curriculum Development Unit (CDU) and its committees, units and positions were delineated, staffing patterns and positions were indicated and a pre-service/in-service professional development plan for vocational curriculum personnel was recommended. The latter plan advocated utilization of the Vocational Education Curriculum Specialist Materials developed by the American Institute for Research, Palo Alto, California.

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NATURE OF THE PUBLICATION

This is one of seven published reports developed in relation to the VO-ED COMP (Vocational Education Curriculum Operation--Management Plan) project funded through Alabama's State Department of Education.

Introduction

Curriculum development in vocational-technical education is now so complex that it demands more coordination at the state level. With technological and cultural values changing so rapidly in our society it has become increasingly difficult for general vocational educators to plan programs and curricula to meet the manpower demands of our state while attempting to meet the needs and interests of students and adult learners. It seems apparent that expanding enrollment, coupled with the increasing complexities of vocational program offerings, demands an even greater concentration and coordination of curriculum development practices. Even though curriculum development practices differ, the State Department of Education must become increasingly involved in coordinating the curriculum development practices in vocational education, just as it does in English, Math, Social Studies, etc., through its State Course of Study. The need for state coordination becomes apparent because of a number of factors, among which are the following:

1. There are innumerable occupational areas which must be served by vocational-technical education.
2. The local education agencies, post-secondary technical colleges, adult vocational education agencies, etc.,

vary in their ability to provide a diversity of appropriate curriculum materials.

3. Articulation across/between program areas and up program levels comes from basic understanding of a coordinated curriculum development process.
4. There is potential for serious problems to arise because of duplication of effort.
5. The necessity exists to continuously revise and update curriculum materials.
6. The massive needs of vocational curriculum materials for handicapped, disadvantaged, and other special groups present special problems.
7. The increasing geographical mobility of persons in the labor force seems to indicate the necessity for emphasis on some standardization of certain types of vocational-technical curricular content.
8. Vocational-technical curriculum development must reflect the continual advances that are being made in educational media and technology.
9. The constant change of values of individuals and society dictate more involvement of interdisciplinary fields in the development of vocational-technical curricula.
10. Keeping up with and evaluating materials developed on a national scope is essential.
11. There exists the tremendous need for the professional preparation of curriculum development specialists in vocational-technical education.

Understanding and dealing with the above mentioned problems can only come about if the State Department seriously deals with its responsibilities to

coordinate and manage vocational curriculum development. Over the years, state departments of education have provided program and certification services to local agencies administering vocational education programs. Recently, federal legislation has provided opportunities to fulfill other roles and provide other additional services. Among these other services are the needs assessment, development, installation, and evaluation of curricula for vocational-technical education. It is the purpose of this report to present a management system for use by the State Department of Education in fulfilling its role in improving the curriculum for all its vocational-technical education programs.

Statement of the Problem

Since the Smith-Hughes Act of 1917, the growth of vocational education has been phenomenal. With the massive expansion of vocational education since the passage of the Vocational Education Act of 1963, many problems have been encountered in the somewhat fragmented approach to curriculum development and the curriculum development process in the State. The report, "Status of Vocational Curriculum Development and Management in Alabama," developed in connection with the VO-ED COMP Project, illustrates the fragmented and inconsistent curriculum development and management process that exists in the State.

Therefore, this report will offer a Vocational Education Curriculum Operation and Management Plan that can be used to assist in improving vocational education curricula at all levels and in all areas.

Objectives

The primary mission of this project was to develop a coordinated curriculum management plan for vocational-technical education in Alabama.

Relating to the VO-ED COMP proposal for this phase of the project, Objective No. 2 and Enabling Objective C address the purpose of this report:

Objective No. 2: To develop a coordinated curriculum development and management plan for vocational-technical education in the State of Alabama.

Enabling Objective C:

To develop and publish a report of a plan for curriculum development and management for Alabama's programs of vocational-technical education. The report will address the delineation of responsibilities and operational procedures for the following curriculum development and management functions: (1) Determination of priorities; (2) Curriculum research; (3) Development and production of materials; (4) Dissemination activities; (5) Evaluation of curriculum materials; and (6) Professional development of personnel in curriculum development and management function activities.

Definition of Terms

The basic terms used in this report are defined as follows:

CDU - Curriculum Development Unit.

CMC - Curriculum Management Committee.

Criterion-Reference Measure - An evaluative measure based upon an established performance objective, which when accomplished, indicates the attainment of that objective.

Curricular Information - Information needed for constructing the curriculum, including involving advisory groups, developing courses of study, selecting appropriate curricular materials and methods of instruction, and evaluating and improving existing programs.

Curriculum Management - All functions associated with planning, organizing, coordinating, collecting, classifying, developing, reporting, diffusing, disseminating, demonstrating,

controlling, and evaluating curricular information and materials which include the: (1) diagnosis of needs; (2) formulation of objectives; (3) selection of content; (4) selection and organization of learning experiences; and (5) identification of evaluation needs and means.

Hardware - Refers to machines, equipment, models and other inventoried items used in the educational program--often with software components.

IMRC - Instructional Materials Review Committee.

Incumbent Worker - A person working in an occupation where a curriculum is being developed to train other persons for that same occupation.

Occupational Task Analysis Survey - A research technique for identifying and reviewing actual job content and context in business and industry for application in the development of vocational education curricula which relates to developing performance objectives, criterion-reference measures, and quality control within a vocational education program.

Performance Test - A test requiring the ability to answer cognitive information and requiring the ability to operate, manipulate or perform a given task.

RCU - Research Coordinating Unit.

Software - Software curriculum materials refer to printed materials, transparencies, filmstrips, etc.

Systems Concept - The systems approach offers a "cyclical" process for dealing with complex problems and their changing relationships. The systems approach as it relates to vocational curriculum development requires: (1) goal statements followed by performance objective statements; (2) continuous assessment of performance; (3) the judicious exercise of quality control; and (4) continuous adjustment for improvement.

Validate - A process of evaluating curriculum materials through reviews by advisory or craft committees from business and industry as well as through actual usage by the teachers and students to determine program effectiveness.

VECS Curriculum - An educational plan consisting of materials for training Vocational Education Curriculum Specialists developed by the American Institute for Research, Palo Alto, California.

Vocational Education Curriculum - A Vocational Education Curriculum is a set or sets of materials which: (1) are based upon a needs assessment; (2) contain goal and specific objective statements; (3) provide some relation and organization of content; (4) provide some selection and organization of learning experiences which reflect certain patterns of learning and teaching; and (5) identify evaluation needs, expected successful outcomes and means.

Assumptions

The following are assumptions made regarding: (1) the development of the VO-ED COMP Project, (2) the Model, and (3) the nature of vocational curriculum:

1. The group decision-making process permeating the vocational education curriculum process will contribute greatly to the development of an effective curriculum development system.

2. The VO-ED COMP Project focuses on the curriculum process as it relates to occupational programs.

3. Specialists in curriculum development research, and management can contribute greatly to the vocational curriculum process.

4. The systems approach offers, at the present time, the best theoretical base for dealing with the complex vocational education curriculum development process.

5. A vocational education curriculum focuses on: (1) job skills development and the related knowledge, theory, and concepts for understanding and doing those skills; (2) attitude development--positive attitude toward work, proper work habits, employer-employee relationships, orientation to work, and occupational survival skills; and (3) experience for students in selecting, obtaining, maintaining, and progressing in employment.

6. The vocational curriculum requires attention concerning curriculum theories and learning theories.

7. The vocational curriculum must be based on the actual validated tasks performed by incumbent workers in the specific occupation, not on what someone thinks workers do. Furthermore, it should be based on preparation for entry into the labor force and/or successful advancement in employment on a career ladder basis.

8. The vocational curriculum requires constant evaluation to keep it relevant to the occupation or occupations it represents.

9. Effective vocational curriculum development requires input and involvement from other disciplines and areas such as sociology, psychology, guidance, general education, reading, special needs, and sex bias monitors.

10. Extensive use of individualized curriculum and materials development processes can contribute to meeting the needs of students with varied abilities.

11. Advisory groups are essential in planning of curricula and in validating the content of materials.

Procedures

This publication focuses on: (1) a Vocational Education Curriculum Operation and Management Model; (2) an Operational and Management Plan for

administering the model; and (3) an approach for pre-service and in-service professional development of vocational curriculum personnel. In establishing a foundation to accommodate and facilitate this developmental research, numerous techniques and resources were instrumental.

First, an extensive search of the literature, including ERIC and AIM/ARM, was conducted and studied. (The literature yielded little significant information related to the topics.) Second, some 960 letters of inquiry, with follow-up requests, were sent. The sample encompasses a wide specturm of sources on the topics sought, including: (1) all state directors of vocational education; (2) all state research coordination units; (3) all vocational teacher education departments in the country; (4) all state, regional, and national vocational curriculum development agencies; and (5) many private concerns thought to deal with vocational education curriculum development activities. Also, many telephone calls of inquiry were made to further contribute to the endeavor.

With this background information, planned out-of-state visits to judiciously selected sites were made by selected project steering committee members and project staff members. The purpose of these visits was to gain further insight into the planning, operation and management of statewide vocational curriculum operations and management systems. Table 1, page 9, illustrates the location of the sites, the titles of the units, the key personnel contacted at the site, and Alabama's Vocational Education personnel involved in the site visits.

The synthesis of this extensive background development provided the basis for the many discussions that led to generation of the Vocational Education Curriculum Operation and Management Model and System outlined in this publication.

Table 1

OUT-OF-STATE CURRICULUM UNITS VISITED*

LOCATION/UNITS	PERSONNEL CONTACTED	ALABAMA'S VOCATIONAL EDUCATION PERSONNEL INVOLVED
ATHENS, GEORGIA		
GEORGIA VOCATIONAL MATERIALS CENTER, UNIVERSITY OF GEORGIA	DR. PAUL SCOTT, DIRECTOR	J. B. DRAKE M. J. IVERSON JIM JOHNDROW JIM KELLY
COLUMBIA, MISSOURI		
MISSOURI INSTRUCTIONAL MATERIALS LABORATORY, UNIVERISTY OF MISSOURI	DR. AMON HURD, DIRECTOR DR. HARLEY SCHLICHTING, ASSISTANT DIRECTOR	R. A. BAKER JAMES BECKHAM JIM JOHNDROW JAMES KELLY JAMES KENDRICK BILL REITZ
COLUMBUS, OHIO		
THE OHIO STATE UNIVERSITY		
OHIO INSTRUCTIONAL MATERIALS LABORATORY	MR. TOM HINDS, DIRECTOR	R. A. BAKER JAMES BECKHAM JIM JOHNDROW JAMES KELLY JAMES KENDRICK BILL REITZ
NATIONAL CENTER FOR VOCATIONAL-TECHNICAL EDUCATION	MR. R. PASQUALE, COORDINATOR	
AGRICULTURAL EDUCATION CURRICULUM SERVICE	DR. HARLON RIDENOUR, DIRECTOR	
LEXINGTON, KENTUCKY		
CURRICULUM DEVELOPMENT CENTER FOR VOCATIONAL EDUCATION IN KENTUCKY, UNIVERSITY OF KENTUCKY	DR. HERB BRUCE, DIRECTOR	M. J. IVERSON JIM JOHNDROW
SACRAMENTO, CALIFORNIA		
CALIFORNIA VOCATIONAL CURRICULUM CENTER, DEPARTMENT OF INSTRUCTION, STATE DEPARTMENT OF EDUCATION	MS. MARY LOU HULL, CONSULTANT	JIM JOHNDROW
STILLWATER, OKLAHOMA		
OKLAHOMA CURRICULUM CENTER, STATE DEPARTMENT OF EDUCATION	MR. BOB PATTON, DIRECTOR	R. A. BAKER JAMES BECKHAM JIM JOHNDROW JAMES KELLY JAMES KENDRICK BILL REITZ
DEPARTMENT OF AGRICULTURAL EDUCATION, OKLAHOMA STATE UNIVERSITY	DR. ROBERT TERRY, CHAIRMAN	
TEXAS		
TEXAS CURRICULUM CENTER, TEXAS EDUCATION AGENCY, AUSTIN	MS. PAT LINDLEY, COORDINATOR	R. A. BAKER JAMES BECKHAM JIM JOHNDROW JAMES KELLY JAMES KENDRICK BILL REITZ
VOCATIONAL CURRICULUM CENTER, TEXAS A & M UNIVERSITY, COLLEGE STATION	MR. DEWEY COWLING, DIRECTOR	
CURRICULUM CENTER, UNIVERSITY OF TEXAS, AUSTIN	MR. ROBERT LUTER, DIRECTOR	

* The visiting staff members sought to determine the following:

1. How curriculum priorities are determined.
2. How curriculum is researched.
3. How materials are developed and produced.
4. How materials are disseminated.
5. How materials are evaluated.
6. How materials are catalogued and retrieved.
7. What methods or activities are used for professional development.
8. How the curriculum development activities are financed.
9. What staffing pattern is used.

THE PROPOSED MODEL

Five generic functions were taken into consideration in conceptualizing a system for managing and operating the vocational education curriculum development process. These five functions were: management, development, reproduction, diffusion/dissemination, and evaluation/revision. The five management functions of (1) planning, (2) organizing, (3) implementing, (4) controlling, and (5) evaluating, encompassed the conceptual framework for the operational and management scheme presented in relation to the model. These functions guided the development of the recommended Vocational Education Curriculum Operation and Management Model.

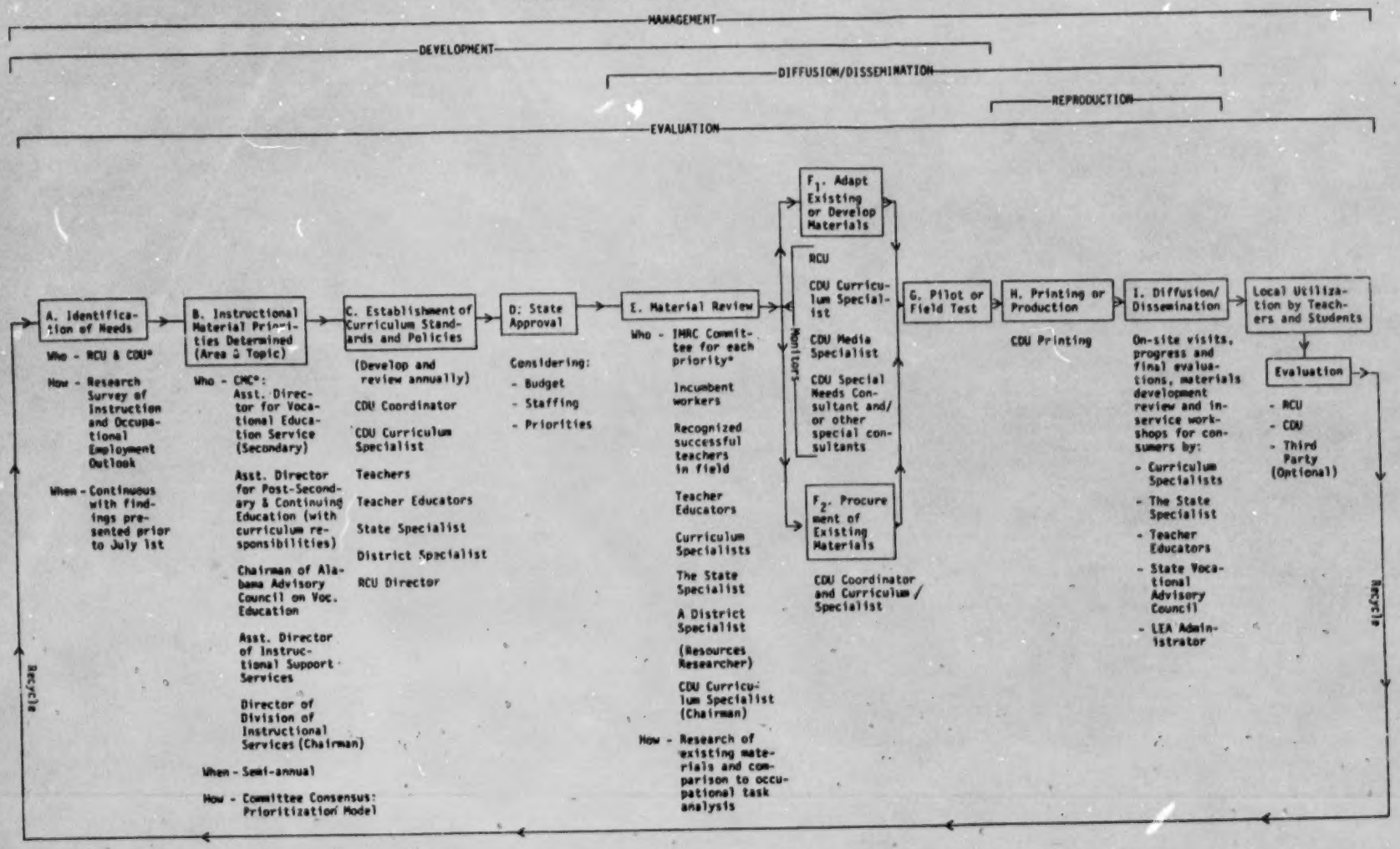
The model illustrated in Figure 1, page 11, encompasses the major components of the recommended system for the operation and management of the vocational education curriculum development process in the State Department of Education. Conceptually, the process is continuous, self-regenerating and comprehensive in its approach to development, operation, and management of vocational education curriculum. Major components of the model, with a brief discussion of each, follow:

A. Identification of Needs

Identification of specific vocational curriculum needs is an ongoing process--in both new and existing programs, in all areas, and at all levels. This phase of the model is critical to the effectiveness of the total system. The needs-assessment phase is a continuous, year-round process culminating in a report of findings that will occur each year at the beginning of the fiscal period, October 1st. Managing this process should be the joint responsibility

FIGURE 1

PROPOSED MODEL - CURRICULUM DEVELOPMENT AND MANAGEMENT FOR VOCATIONAL-TECHNICAL EDUCATION IN ALABAMA



*Note: RCU - Research Coordinating Unit
CDU - Curriculum Development Unit
CMC - Curriculum Management Committee
IMRC - Instructional Materials Review Committee

of the Research Coordinating Unit (RCU) and the Curriculum Development Unit (CDU).

Everyone affected by vocational education curriculum decisions should have input into the needs assessment. This includes students, teachers, representatives from business, industry and labor, State specialists, district specialists, and teacher educators. A tentative model for needs assessment and prioritization has been developed as a product of the VO-ED COMP Project, and is reported in Publication No. 4, "A Demonstrated Prioritization Model for Curriculum Development in Alabama's Vocational-Technical Education System."

Methodology of the needs assessment and prioritization model considers: (1) employment outlook (employment levels and job openings), (2) current levels and numbers of teachers and students involved in specific programs, (3) types of specific needs indicated by teachers, State specialists, vocational counselors, vocational administrators and teacher educators, and (4) status of current materials. This information is further analyzed by OE Code areas. It is also recommended that, as the system becomes operational, the RCU incorporate information from reliable student and employee follow-up studies into the needs assessment process.

B. Instructional Materials Priorities Determined

The determination of priorities for vocational instructional materials involves a group decision-making process. It is recommended that the State Superintendent appoint a Curriculum Management Committee (CMC) to finalize the priorities. The CMC should include: (1) Assistant Director of Vocational Education Services, (2) Assistant Director of the Postsecondary and Continuing Education Division charged with vocational curriculum responsibilities, (3) Assistant Director of Instructional Support Services, (4) Chairman of The Alabama Advisory Council on Vocational Education, and (5) Director of Instructional Support Services, who will serve as CMC Chairman. The

Committee should have a broad range of responsibilities in providing recommendations to the State Superintendent for his action. CMC involvement in the management process will be discussed throughout this model. The Committee should meet a minimum of two times a year to establish and review curriculum priorities.

Following the recommended Prioritization Model, the Directors of the RCU and the CDU should present the needs assessment findings and other pertinent information to the CMC. Based on the needs assessment, availability of funds, availability of personnel and other resources, the CMC should recommend the priorities for the year to the State Superintendent of Education. Service areas, levels and topics for materials will be specified in the recommendation. If new programs are to be recommended, a feasibility study conducted by the RCU should accompany that recommendation.

C. Establishment of Curriculum Standards and Policies

The CMC should be charged with the responsibility of assisting in the establishment of standards and policies regarding the development of curriculum materials for vocational education. The RCU Director and CDU Coordinator should be charged with the responsibility for development of a "Curriculum Standards and Policies Manual" to recommend to the CMC.

The Manual should address the following: (1) Basic Standards, (2) Policies, (3) Quality Control, (4) Group Involvement, (5) Evaluation, (6) Dissemination/Diffusion Practices, (7) Contract Relationships, and (8) a Standard Format. Once developed, this Manual should be reassessed and revised annually.

Much involvement of curriculum specialists, State specialists, teacher educators and teachers will be needed, especially in the identification and development of a standard format. A standard format for vocational instructional

material development is essential in order to better utilize common units of instruction within as well as across service or occupational areas.

D. State Approval

The CMC, upon reviewing the needs assessment, staffing patterns and expertise, and financial resources, will provide time estimates and estimated expenditures to the State Superintendent of Education. Accompanying these recommendations will be curriculum work regarding potential new programs based on feasibility studies conducted by the RCU.

Upon review, the State Superintendent will accept, modify, or reject the CMC recommendations and, when accepted, will notify appropriate personnel to begin work.

E. Material Review

The first step in the development/dissemination/diffusion/adoption process is the appointment of an Instructional Materials Review Committee (IMRC). The Coordinator of the Curriculum Development Unit will recommend to the Curriculum Management Committee an Instructional Materials Review Committee (IMRC), for each priority item, consisting of: (1) incumbent workers, (2) recognized successful teachers in the specific field, (3) teacher educators in the field, (4) curriculum specialist(s) in the specific field (or as closely related as possible), (5) State specialist and a district specialist in the field, and, as Chairman, (6) the respective CDU curriculum specialist.

The IMRC will be assisted by a "resources researcher" in the CDU for locating, securing and distributing the materials to be reviewed. A major task of the IMRC committee at this time will be to study the existing materials in relation to the needs identified through an occupational task analysis survey. (It will be the responsibility of the RCU working with the CDU personnel to provide the IMRC with the results of the task analysis survey.)

The resources researcher may use, as a point of departure, Report No. 2 of the VO-ED COMP Project, "Curriculum Resources and Services Available to Vocational-Technical Education in Alabama," to begin locating and securing related materials for review. ERIC, AIM/ARM searches, teacher educators, local directors and teachers, and the State specialists should also be utilized in any resources search.

The IMRC should assess the materials to be reviewed on an instrument similar to the one proposed in the Report No. 5 of the VO-ED COMP Project, "A Classification and Retrieval System for Vocational-Technical Education Curricular Materials in Alabama." If appropriate, consultants for special needs and/or sex bias will assess materials for the IMRC.

A consensus among members of the IMRC will determine the recommendation to the CMC on whether to: (1) develop or adapt materials or (2) procure existing materials. Upon the acceptance or rejection of the recommendation, the CDU Director is to initiate the appropriate action.

It is also recommended that the resources researcher in the CDU be responsible for organizing the development of a resources library. This should encompass the development of a dissemination and retrieval system for all vocational education materials in the State Department. VO-ED COMP Publication No. 5, "A Classification and Retrieval System for Vocational-Technical Education Curricular Materials in Alabama," should be utilized in this process. The resources library will include a films component. The films section will provide a service, on a loan-free basis, to vocational educators in the State, including films, transparencies (or masters), slide series, etc. The Resources Center will issue a resources catalogue to assist vocational educators in selecting and scheduling the items they desire.

F_1. Adaptation of Existing Materials or Development of Materials

In adapting or developing curriculum instructional materials, the decision must be made to: (1) develop inhouse or (2) contract out to other agencies, responsible groups or individuals. The ultimate decision for this will be made by the CMC after consultation with the RCU Director and CDU Coordinator.

Inhouse adaptation or development of materials will be a committee process. Another committee composed of a sub-group of the IMRC (or the entire IMRC, if appropriate) will initiate the development of the materials following the guidelines outlined in the Manual discussed in Item C.

CDU media specialists, special needs consultants, and sex stereo-typing consultants should be made available to the development committee. The State Superintendent should encourage local educational agencies to assist by providing released time for those teachers identified to participate in the development process. Nominal compensation should be provided for incumbent workers who participate in the development process.

Before the materials are in the final development stages, they should be reviewed and validated by another advisory or craft committee from that occupational area.

The CDU Coordinator, together with the assigned CDU curriculum specialist, must become managers of this development process. This will be necessary if Alabama attempts to review and/or develop new curriculum for all of its programs at least once every five years.

Contracting out the development of curriculum materials to other agencies, responsible groups, or individuals may be a viable alternative at times. This may be an excellent way to involve additional expertise in critical areas that are not available in-house. Also, it is possible that the curriculums could be developed less expensively in some cases, thus this avenue could also

provide another resource for dealing with the massive job at hand.

After studying the alternatives, the RCU Director and the CDU Coordinator should make a recommendation to the CMC for its consideration. If the CMC elects to contract the development, it should be the RCU Director's and the CDU Coordinator's responsibility to monitor the process. Whichever means is used, all contract development should follow the policies and standards outlined in the Manual discussed in Step C.

F_2. Procurement of Existing Materials

After the material is reviewed by the IMRC (and Curriculum Specialist) and the recommendation is made to and accepted by the CMC, the CDU Coordinator will initiate the process to secure the quantity of materials needed for the field test or for total implementation. This activity will be carried out in accordance with State purchasing policies and procedures.

G. Pilot or Field Test

Once materials have been adapted, developed or procured, pilot or field tests should be conducted before mass expenditures are incurred for printing, dissemination, and implementation.

The RCU Director and CDU Coordinator should submit to the CMC recommended criteria for conducting the pilot or field test that would include criteria for utilizing programs and evaluating results. Once these criteria are accepted, the CDU Director has the responsibility for (1) implementing the pilot or field test, (2) reporting the results of the test to the CMC, (3) coordinating the revision or modification of the materials, (4) involving others responsible for implementing curriculum, (5) recommending the acceptance or rejection of the curriculum or materials, and (6) disseminating of the results of the test to State Department of Education personnel, teachers and administrators in the field. Another critical function of the CDU Coordinator, in cooperation with

the LEA, is to assist in the procurement of the hardware (projectors, mock-ups, models, tape recorders, etc.) and the software (printed materials, transparencies, filmstrips, etc.). The CDU Coordinator is also responsible for producing and delivering sufficient quantities of materials in adequate time for teachers to review and organize it properly prior to its use in the classroom, laboratory or shop.

If, for some unforeseen reason, a pilot or field test is judged to be impractical, approval for bypassing this step must be secured from the Curriculum Management Committee.

H. Printing/Production

Printing or production of materials, in sufficient quantity and on time, is critical to this system. The CDU Coordinator should be responsible for establishing printing priorities and deadlines, and for coordinating the total production process.

I. Diffusion/Dissemination

The dissemination process must be viewed in a much broader scope than just distributing materials to teachers. Having an outstanding curriculum developed but not adopted and utilized makes no contribution to the educational process. Dissemination must be viewed in terms of a diffusion/dissemination/adoption process. Diffusion is the systematic installation of new materials or processes including maintenance and support until these materials are adopted. In this light, the CDU Director and Curriculum Specialists must perceive their roles as change agents. In doing so, many components and processes in the system will be involved.

Diffusion/dissemination/adoption really begins in the developmental stages. As the curriculum or instructional materials are being adapted, developed or procured, the CDU Coordinator and/or Curriculum Specialists

should serve as liaison personnel between the developers and the State Department staff, teacher educators and teachers. This would involve providing the opportunity for these groups to review and make suggestions for improvement before materials are in final form. This function might well be one of the most important steps in the dissemination/adoption process.

Regarding the dissemination/adoption process, it should be the CDU Coordinator's responsibility to get State Department Specialists, teacher educators, and teachers involved in on-site visits to the pilot or field test programs. The CDU Coordinator should also be responsible for disseminating the results of the pilot or field test to State Department personnel, teacher educators, teachers and administrators.

Distribution of the curriculum materials, whether adapted, developed or adopted, should be accomplished primarily through inservice workshops for all potential users. The workshops should be coordinated by the CDU and its curriculum specialists in a concerted effort with appropriate State Department Specialists, and teacher educators. Necessary funds to accomplish the dissemination/adoption process should be considered when establishing priorities.

J. Local Utilization by Teachers and Students

As teachers and students begin utilizing the curriculum, periodic contacts should be made by the CDU staff and the appropriate State specialists concerning problems encountered in the implementation process. As group or individual problems are encountered, the CDU, in cooperation with teacher educators and State specialists, should act immediately to provide assistance.

K. Evaluation

There will be three aspects to this component: (1) evaluation of the curriculum materials being utilized, (2) evaluation of the vocational

curriculum personnel in the State Department, and (3) evaluation of the system itself.

The primary purpose of the curriculum evaluation is to provide an objective means by which to improve the curriculum and curriculum development process on a continuing basis. The RCU, in cooperation with the CDU staff, and following the criteria outlined in the Manual discussed in Item C., will implement the evaluation process. The RCU will, in cooperation with the CDU staff, State specialists, and teacher educators, establish evaluative criteria and performance levels before the materials are installed in the LEA's.

The materials evaluated for purposes of revision will focus on the following: (1) comparisons with new task inventories, (2) objectives, (3) learning activities, (4) student resource materials, (5) results of the pilot or field test, (6) criterion reference tests, (7) performance tests, and (8) standards.

The vocational curriculum personnel evaluations will follow the model outlined in VO-ED COMP Publication No. 4, "A Model and Guide for the Assessment of Curriculum Personnel in Alabama's Vocational-Technical Education System."

Evaluation of the curriculum management system itself is essential for maximum efficiency and effectiveness. The services of an outside evaluator during the first three years could assist in the system's improvement until it becomes standardized. Once standardized, an annual process evaluation (to monitor the system to see if it is doing what it is supposed to do) should suffice.

Components of an evaluation of the Curriculum Operation and Management System should focus on: (1) a summary of activities, products, and objectives; (2) procedures and guidelines; (3) communications/coordination between individuals, units or groups; (4) effectiveness of decision-making groups; (5) clarity of assignments and responsibilities; (6) appropriate scheduling of materials development and field tests; (7) proper functioning of the dissemination/diffusion system, and (8) support for the system.

OPERATION AND MANAGEMENT PLAN FOR ADMINISTRATION OF THE MODEL

Any good educational or business management plan can generally be categorized by functions. This operational and management plan for administering Alabama's vocational curriculum process is developed around five basic functions. They are: (1) planning, (2) organizing, (3) implementing, (4) controlling, and (5) evaluating. These five management functions involve the assignment of specific duties and the delineation of responsibilities relating to installing and operating the Model.

It should be remembered that "the mission of the Curriculum Management System is to "provide the most effective vocational curriculum materials and service to the teachers and students of Alabama's Vocational Educational Programs in the most efficient manner." A good operational and management plan can contribute to that mission.

The planning function, as it relates to the operational and management plan, identifies the components and considerations necessary for preparing the system for implementation. These considerations are: reviewing the existing process, establishing the mission for the system, coordinating with (or revising if need be) the State Plan for Vocational Education, and identifying necessary resources.

The organizing function outlines the specific task to be accomplished by each position, committee or council. The delegation of authority to carry out the assigned task is also noted. Lines of authority and position or function relationships are specified. Furthermore, the organizing function includes

identifying and assigning qualified personnel who will assist in fulfilling the mission of the system. The organization functions include:

1. Establishing and developing the Curriculum Management Committee (CMC), a decision-making body, to manage and oversee the vocational education curriculum effort.

2. Establishing a Curriculum Development Unit and defining staffing needs.

3. Developing procedures and general policies for the curriculum operational and management system. (The development of a Curriculum Standards and Policies Manual as described in the Model was not developed as a part of this project.)

4. Clarifying the Research Coordinating Unit (RCU) function in the system.

5. Appointing an Instructional Material Review Committee (IMRC) for each curriculum priority item identified to review existing materials in use, review materials from other sources and make recommendations to CMC concerning adopting, developing or procuring materials.

6. Appointing a Curriculum Development Committee to develop the curriculum or instructional materials.

7. Preparing for the professional development of key personnel.

8. Installing the System.

9. Piloting the model.

Many of the organizing functions of the system have been dealt with in this and other VO-ED COMP reports.

Once the planning, organizing and staffing for the system is complete, the implementation function comes to the forefront. The leadership functions of

management are the keys to the successful implementation process. The opinion leaders, as well as the decision makers in the system, must be sold on the system if the system is to be accepted. Many individual and group meetings will be involved in gaining acceptance for the system. Adequate resources and qualified personnel to implement the system will be essential to its success. Providing adequate professional development activities for staff is also a key component of the implementation function. Once the decision is made to implement the model the following activities related to the implementation process must be addressed to: (1) initiate input procedures and (2) prioritize needs and proceeding as described.

The controlling and evaluating functions of the management process provide the means of regulating, maintaining and directing the system along its predetermined path, and/or improving the system as the process moves along. The activities related to the controlling and evaluating function relate to:

1. Monitoring the implementation process.
2. Process evaluation of the system.
3. Outcomes evaluation of the system.
4. Outcomes evaluation of the products of the system.
5. Providing recommendations for recycling the system.

The operations and management framework for the Model has been reviewed. The identification of what, when, how, and by whom must now be outlined to implement the operational and management system. The Task, Procedures, and Responsibility Distribution Chart that follows is developed to serve that function.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART

TASK	PROCEDURES	RESPONSIBILITY
1. Appoint Curriculum Management Committee (CMC) to manage the curriculum development process consisting of: A. Assistant Director of Vocational Education Services. B. Assistant Director, Postsecondary and Continuing Education (with curriculum responsibilities). C. Assistant Director of Instructional Support Services. D. Chairman of Alabama Advisory Council on Vocational Education. E. Director of Division of Instructional Service (Chairman).	Be executive order (outlining mission, responsibilities, authority and relationships).	The State Superintendent.
2. Establish policies for the CMC. A. Duties, procedures for conducting meetings, criteria for decision-making, establish periodic meetings, ways to call meetings.	Through open discussions by CMC members and consensus.	CMC.
3. Determine overall goals and specific objectives of CMC.	Through discussions and review of the system and general needs assessment. Involvement of RCU Director, CDU Coordinator, State Specialist, teachers. Identification of specific goals, objectives and activities.	CMC.
4. Establish Curriculum Development Unit (CDU) in Research Coordinating Unit (RCU) with responsibilities in all service areas and at all levels (secondary and postsecondary).	Executive order.	The State Superintendent.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
5. Establish policies, procedures, lines of authority, relationships, broad goals and objectives for the CDU.	Open discussion with CDU staff, RCU staff and CMC representative. Then recommend to CMC.	CMC.
6. Establish professional development activities in curriculum development and management for curriculum personnel.	Inservice training in cooperation with teacher educators utilizing the vocational education curriculum specialist materials developed by the Curriculum Institute for Research.	Teacher Educator and CDU.
7. Establish RCU overall responsibilities in the curriculum process with responsibilities in all service areas and at all levels (secondary and postsecondary).	Open discussions of RCU staff, CDU staff and CMC representative. Then recommend to CMC.	CMC.
8. Develop curriculum standards and policies manual addressing: A. Basic Standards B. Policies C. Quality Controls D. Group Involvement E. Field Test Procedures F. Evaluation G. Dissemination/Diffusion H. Standard Format I. Contract Relationship (to be reassessed and revised annually)	Literature review, input from teacher educators, state specialist, teachers, Advisory Council.	RCU; CDU develop and recommend to CMC.
9. Establish resources center and catalog system for State Department Vocational Education materials.	Follow procedures outlined in VO-ED COMP Publication #5.	CDU.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
10. Identify curriculum needs.	Follow guidelines and procedures outlines in VO-ED COMP Publication #4 providing for collecting and analyzing data by O.E. Code relative to: 1. Employment outlook (employment levels and job openings), 2. Current levels and numbers of teachers and students involved in specific programs, 3. Types of specific needs indicated by State specialist teachers, vocational counselors, vocational administrators and teacher educators, 4. Status of current materials (plan to later incorporate student and first year follow-up information).	RCU; CDU.
11. Determine curriculum priorities and establish short (one year) and long range (five years) goals.	Follow guidelines and procedures outlines in VO-ED COMP Publication #4. Additional input from State specialist. (Example of long range goal--To develop and/or revise a minimum of every five years.) If new program curriculum is recommended by CMC, a feasibility study conducted by RCU.	CMC recommend to State Superintendent.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
12. Locate and select funding sources.	The RCU and CDU key responsibility is to identify potential funding sources. However, service area specialists, teacher educators, and every other individual or group should accept some responsibility for assisting in locating potential funding sources and should be sought out for their input.	CMC.
13. Identify, appoint and establish Instructional Materials Review Committee (IRMC) for each curricular priority selected.	A. The CDU will recommend after input from State specialist, a committee consisting of: incumbent workers, 8-12; recognized successful teachers in the specific area; teacher educators in field; a curriculum specialist in the field or as closely related as possible; State specialist; and CDU curriculum specialist. The CDU specialist will serve as chairperson. B. Establish guidelines and procedures for conducting meetings and materials review. C. The resources researcher in the CDU will provide assistance to the IMRC in locating and securing materials for review. VO-ED COMP Publication #2 will be utilized as a point of departure for locating curriculum resources and materials for review.	CMC.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
14. Review curriculum materials and recommend to the CMC whether or not to: (1) procure, (2) adopt, or (3) develop new materials.	A. Collect published materials at the local, state and national level. B. Determine materials being developed nationally. C. Utilize review instrument in VO-ED COMP Publication #5. D. Compare occupational task analysis. E. Make reviews. F. Secure input from special consultants concerning: 1. Special Needs 2. Sex Bias 3. Media, etc. G. Recommend to CMC to: 1. Procure, 2. Adapt or 3. Develop new materials.	IMRC.
15. Review alternatives and select alternative for adapting or developing new materials. A. Develop inhouse. B. Contract out to the agencies, responsible groups or individuals.	Consultation with RCU Director and CDU Coordinator considering time frame, resources and expertise.	CMC.
16. (If the decision is made to develop materials in-house): A. Identify, appoint and establish Curriculum Development Committee for each curriculum priority selected. (If appropriate, the same IMRC could become the Curriculum Development Committee.)	The CDU will recommend, after input from State specialists, a committee consisting of incumbent workers (8-12), recognized successful teachers in the specific area, a curriculum specialist in the field or as closely related as possible, State specialist, and the CDU specialist. The CDU specialist will serve as chairperson.	CMC.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
16. (continued) B. Establish evaluation procedures and performance levels for the Curriculum Development Committee and the materials to be developed.	The RCU should develop evaluation procedures and performance levels after interacting with curriculum specialist, State and district specialists and teacher educators. The evaluation should encompass: 1. The planning phase. 2. The process. 3. The outcomes (of the products and the system).	CMC.
C. Develop curriculum materials.	Follow guidelines in the Standards and Policies Manual.	CDC.
D. Coordinate all developmental activities.	A. Provide assistance. B. Summarize reports and present to CMC (quarterly). C. Provide for teacher and State specialist review and input during developmental activities. Gain input concerning: 1. Appropriateness. 2. Objectives. 3. Planned learning activities. 4. Test (performance and criterion reference). 5. References. D. Disseminate pertinent information. E. Monitor the process and assist in solving problems. F. Assist in providing resources. G. Schedule consultants (special needs, sex bias, reading level, interdisciplinary, sociologist, psychologist, etc.)	CDU.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
16. (continued)	H. Identify and schedule another advisor or craft committee to revew and validate materials. I. Edit materials. J. Give final approval before presenting to CMC to request field or pilot test. K. Coordinate with RCU all evaluation activities.	
17. (If the decision is made to contract with outside agencies, group or individuals):		
A. Establish criteria for Request for Proposal's (RFP's) to include in the Standards and Policies Manual regarding curriculum research and curriculum development.	Literature review, input from CDU, State specialist and teacher education departments, including state and federal guidelines. Tc be approved by the CMC.	RCU.
B. Advertise for, obtain, review, and evaluate proposals and select proposal for funding.	A. Follow standard State Department guidelines for advertising and obtaining proposals. The CDU and State specialist should provide encouragement to outside agencies, groups, or individuals with special expertise to develop proposals. B. In cooperating with CDU establish a review and evaluation committee, consisting of teachers, State specialist, district specialist and CDU curriculum specialist.	RCU.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
17. (continued)	B. (continued) Utilize a review and evaluation instrument to provide some consistency to the process. Recommend to the CMC for their action in approving the project.	
C. Monitor and coordinate the project activities.	A. Initiate monitoring and evaluation activities.	RCU; CDU.
	B. Receive progress reports, summarize quarterly and final reports and report to CMC.	
	C. Disseminate progress information to teachers, administrators and State specialist.	
	D. Provide for teacher and State specialist review and input during developmental activities. Obtain input concerning: 1. Appropriateness. 2. Objectives. 3. Planned learning activities. 4. Test (performance and criterion reference). 5. References.	
	E. Consult with project director to provide assistance and resolve problems as needed.	
	F. Give final approval before presenting to CMC to request field or pilot test.	
18. (If decision is made to procure materials):		
Procure existing materials to install in local programs. (Procure sufficient quantity for pilot or field test or total distribution.)	After reviewing the materials, the IMRC recommends to the CMC the procurement of the materials to pilot or field test. The CMC, in consultation with	CDU.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
18. (continued)	the State specialist, makes the final decision to procure. Notification is given the CDU and their resource researcher initiates the procurement procedures following State Department policies.	
19. Make decision to pilot or field test or implement curriculum involving all teachers.	All major curriculum changes should be pilot or field tested before totally implemented. However, if valid reasons exist for not considering the field test, this decision is made by the CMC.	CMC.
20. Establish performance levels to accept or reject the curriculum.	The RCU, after consultation with the CDU, State specialist, teacher educators and teachers, will recommend.	CMC.
21. Organize to conduct pilot or field test.	A. Review Standards and Policies Manual regarding procedures and criteria for conducting pilot or field test. B. Determine criteria. C. Develop matrices and instruments for data collection. D. Establish criteria for specific site(s) selection. E. Develop procedures for conducting test. F. Obtain suggestions for potential sites from State and district specialist, teacher educators, administrators and teachers. G. Determine interest and appropriateness of potential sites.	RCU.

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
21. (continued)	H. Obtain approval from CMC to contact administrators and teachers to review plans.	
	I. Recommend site to CMC for approval.	
	J. Develop memorandum of agreement with the selected site.	
22. Initiate and conduct the pilot or field test.	A. Train the field test personnel with the assistance of the State and district specialist.	CDU.
	B. Monitor, in cooperation with the RCU, the field test.	
	C. Coordinate the revision or modification of materials.	
	D. Assist the field site in securing hardware and software materials.	
	E. Produce and deliver sufficient quantities of curriculum materials on time.	
	F. Coordinate the involvement of State and district specialists and administrations, teacher educators and teachers in project reviews.	
	G. Coordinate the evaluation.	
	H. Present progress and final reviews to CMC.	
	I. Disseminate the results to State Department Personnel, teacher educators, administrators and teachers.	
	J. Recommend adoption, further testing or rejection of the project to the CMC.	

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
23. (If decision is made to adopt):		
Make decision to implement the curriculum.	Review field test evaluation and secure additional input from State and district specialists.	CMC.
24. Initiate printing and/or production of materials.	A. Contract or print/produce in-house.	CDU.
	B. Establish priorities, quality control, deadlines and coordinate the total process.	
25. Implement and coordinate the dissemination and/or diffusion process.	A. Involve State Department Specialist, teacher educators, administrators and teachers in the review of materials throughout the development process. Obtain and incorporate suggestions for improvement.	CDU.
	B. Coordinate visits to the pilot or field test sites involving State Department Specialist, teacher educators, administrators, and teachers. In the beginning, focus primarily on the teachers.	
	C. Disseminate the results of the pilot or field test to the above group.	
	D. Conduct inservice sessions for State and district specialists, teacher educators and key administrators who may provide supportive services.	
	E. Conduct awareness seminars to create interest in the new materials. Provide opportunities for teachers to interact with the pilot or field test teachers.	

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
25. (continued)	F. Identify and prepare selected teachers and administrators to fully implement the materials. State and district specialists and teacher educators will be actively involved in this process.	CDU
	G. Coordinate the efforts of the district and State specialists and teacher educators in monitoring and in providing technical assistance to teachers and administrators as they implement the materials.	
	H. Provide recognition for the selected teachers for their efforts and success.	
	I. Provide assistance to all teachers in totally implementing the materials.	
	J. Maintain support.	
	K. Provide assistance to teacher educators as they incorporate materials into their courses.	
	L. Assist the RCU in evaluation of the dissemination/diffusion process.	
26. Monitor and provide assistance to teachers and students.	A total cooperative effort will be made by the curriculum specialist, State and district supervisor and teacher educators to provide supportive services.	CDU.
27. Evaluate the products of the Curriculum Operation and Management System (for outcomes, evaluation, and revision).	A. Follow guidelines in the Standards and Policies Manual.	RCU.
	B. Utilize instrument in VO-ED COMP Publication #5.	

TASK, PROCEDURES AND RESPONSIBILITY DISTRIBUTION CHART
(continued)

TASK	PROCEDURES	RESPONSIBILITY
27. (continued)	C. Secure additional information from State and district specialists, teacher educators, teachers, administrators, students and CDU staff. D. For revision focus on: 1. Comparison with new task inventories. 2. Objectives. 3. Learning activities. 4. Student resource materials. 5. Results of pilot or field test. 6. Criterion reference test. 7. Performance test.	
28. Evaluate the vocational curriculum personnel.	Follow the model outlined in VO-ED COMP Publication #4.	Director, CDU.
29. Evaluate the Curriculum Operation and Management System.	A. The evaluation should focus on: 1. Activities, products, and objectives. 2. Procedures and guidelines. 3. Communication and coordination. 4. Effectiveness of groups. 5. Clarity of assignments and responsibilities. 6. Materials development and production. 7. Field test. 8. The dissemination/diffusion system. 9. Support and resources. B. Quarterly and Annual reports should be reviewed with the CMC.	Third party evaluator (first three years); then RCU Monitor.
30. Oversee the adjustments in the Curriculum Operation and Management System.	Changes made based on the evaluation reports.	CMC.

FUNCTIONS AND RESPONSIBILITIES OF COMMITTEES, UNITS, AND POSITIONS

Functions and responsibilities of committees, units and individuals have been reviewed throughout the discussion of the Curriculum Operation and Management Model. The following synopsis is offered for further clarification. The functions and responsibilities are outlined for the following participants who are essential for the effective implementation and operation: (1) Curriculum Management Committee (CMC); (2) Instructional Materials Review Committee (IMRC); (3) Curriculum Development Committee; (4) Research Coordinating Unit (RCU), as it relates to curriculum activities; (5) Curriculum Development Unit (CDU).

In summary, the Curriculum Management Committee (CMC) is chaired by the Director of Instructional Support Services and is the decision-making body who ultimately recommends to the State Superintendent all matters related to vocational curriculum. An Instructional Materials Review Committee (IMRC) is appointed for each vocational curriculum priority identified to make recommendations to the CMC regarding procuring, adapting or developing new vocational curriculum materials. The Curriculum Development Committee actually adapts or develops the vocational curriculum materials. The Research Coordinating Unit (RCU) function is to conduct and/or coordinate all vocational curriculum research and evaluation activities. The curriculum Development Unit (CDU) manages the total development, revision, diffusion/dissemination process. There must be a full-time curriculum staff to implement the work required by the Curriculum Operation and Management System.

The Curriculum Management Committees (CMC)

The Curriculum Management Committee (CMC) is chaired by the Director of Instructional Support Services. The other members include: (1) Assistant Director of Vocational Education Services; (2) Assistant Director of Post-Secondary and Continuing Education with curriculum responsibilities; (3) Assistant Director of Instructional Support Services and the Chairman of the Alabama Advisory Council on Vocational Education.

This body will be the decision-making body for recommending to the State Superintendent all areas of vocational curriculum concerns. The on-going function of the CMC is to manage and monitor the total curriculum operation and management process, establish standards and policies, review and approve developmental plans and specifications, establish priorities, allocate resources, review all evaluations for decisions and action, and evaluate and improve the Curriculum Operation and Management System.

The initial function of CMC will be organizing itself and establishing policies and procedures. Policy considerations to address will involve: (1) duties; (2) procedures for conducting meetings; (3) criteria for decision-making; (4) establishing periodic meetings; (5) procedures for calling meetings; (6) basic guidelines; and (7) involvement of RCU Director and CDU Coordinator. The RCU Director and CDU Coordinator will be active consultants for the CMC.

The second phase for consideration by the CMC will be to the goals and specific objectives for operating the Curriculum Operation and Management System. These goals and objectives will determine the direction for the system and will provide the basis for evaluating the total system.

Third, the CMC will finalize staffing needs including curriculum researchers and evaluators in the RCU and total staffing of the CDU.

The following includes, but is not limited solely to, key functions and responsibilities of the CMC:

1. Establish staffing patterns and responsibilities and relationships.
2. Approve a Curriculum Standards and Policies Manual.
3. Establish professional development activities for those involved in curriculum activities.
4. Determine priorities for all curriculum activities.
5. Work closely with RCU Director and CDU Coordinator, and State specialist.
6. Review and approve all curriculum related funding activities.
7. Locate funding sources.
8. Review and approve of Instructional Materials Review Committees.
9. Review and approve of Curriculum Development Committees.
10. Make final decision to procure, adapt or develop new materials.
11. Make final decision to adapt or develop materials in-house or to contract out to other agencies, responsible groups or individuals.
12. Review and make final approval on all evaluation procedures and performance levels.
13. Review progress and materials on all developmental activities.
14. Give final approval to pilot or field test and establish the location.
15. Visit test sites and monitor progress.
16. Make final decision to implement curriculum or materials.
17. Approve and provide support for the diffusion/dissemination process.
18. Make final decision on printing or producing in-house or contracting.
19. Make adjustment in the Curriculum Operation and Management System.

Instructional Materials Review Committee (IMRC)

An Instructional Materials Review Committee (IMRC) will be appointed for each priority item identified. A CDU specialist will chair the committee whose membership is composed of: (1) the State specialist; (2) a district specialist; (3) recognized successful teachers in the field; (4) incumbent workers; and (5) teacher educators.

The prime function of the IMRC is to recommend to the CMC: (1) the procurement, (2) adaptation, or (3) development of curriculum materials. The initial purpose of the IMRC is to organize and establish policies, procedures and guidelines.

Utilizing their own resources and the services of the resources researcher from the CDU, they will locate, secure, and review materials related to the priority topic. They will compare the materials to the occupational task analysis provided by the RCU. Instruments for review of the materials are included in VO-ED COMP Publication #5. (If appropriate, the IMRC could become the Curriculum Development Committee.)

Curriculum Development Committee (CDC)

Once the decision is made to adapt or develop new materials, a Curriculum Development Committee will be appointed. A CDU curriculum specialist will chair the committee. The committees membership will consist of: (1) the State specialist; (2) post-secondary dean and/or a district specialist; (3) recognized successful teachers in the field; (4) incumbent workers; and (5) teacher educators. (If appropriate, the IMRC may be appointed to fulfill this role.

The prime function of the Curriculum Development Committee is to adapt or develop new materials for pilot or field test and/or installation into local programs. The committee will follow the guidelines outlined in the Standards and Policies Manual in developing all materials. The initial purpose of the

committee is to organize and establish its operational policies, procedures and guidelines. The committee will utilize special consultants such as sociologist, psychologist, special needs, reading, and inter-disciplinary in its developmental activities. The committee will utilize occupational task analysis surveys generated by the RCU. The committee will prepare progress reports for presentation to the CMC.

Research Coordinating Unit (RCU)

The Research Coordinating Unit (RCU) has key responsibilities in the implementation of the Vocational Curriculum Operation and Management System. The RCU's vocational curriculum related functions will cover all areas and all levels encompassed by the State Department of Education. The RCU's function in the system will require personnel with specific talent and expertise in research, needs assessment, statistical analysis, curriculum design, curriculum development and evaluation.

A prime function of the RCU is to carry out the work of the CMC. This work should include, but is not limited to the following:

1. Coordinating the activities of the CDU.
2. Assisting the CMC in determining short and long range goals.
3. Coordinating the development and annual revision of the Vocational Curriculum Standards and Policies Manual.
4. Conducting empirical needs assessment studies to assist the CMC in establishing priorities.
5. Assisting in locating funding sources.
6. Conducting feasibility studies for new programs.
7. Coordinating and conducting occupational task analysis surveys.
8. Conducting feasibility studies for the CMC related to developing specific material in-house or contracting out to development.
9. Developing curriculum contracts.

10. Preparing and processing requests for proposals.

11. Developing and coordinating the development of proposals for private and federal funds.

12. Administering funds allocated by the CMC for curriculum improvement.

13. Conducting and/or coordinating all evaluation activities.

14. Monitoring all developmental activities.

15. Coordinating the development of procedures, guidelines, and evaluation of pilot or field tests.

16. Assisting in developing, monitoring and evaluating the diffusion/dissemination process.

17. Reporting curriculum development activities and products to the USOE and the National Center for Research on Vocational Education.

18. Evaluating products of the system.

19. Monitoring the evaluation of vocational curriculum personnel.

20. Assisting the third party evaluator in evaluating the Vocational Education Curriculum Operation and Management System the first three years; then monitoring the system.

Curriculum Development Unit (CDU)

The Curriculum Development Unit has vital responsibilities in the Vocational Curriculum Operation and Management System. The CDU's vocational curriculum functions will extend to all areas and all levels in the State Department of Education. The CDU's function in the system will require highly qualified personnel with specific talent and expertise in curriculum planning, curriculum design, curriculum development, material production, pilot and field testing of materials, executing the diffusion/dissemination process and evaluation. The CDU will maintain close liaison with all personnel in the State Department with vocational curriculum concerns, institutions of higher education, and local, regional and national educational agencies.

A prime function of the CDU is to assist in carrying out the work of the CMC. This work should include, but is not limited to the following:

1. Working closely with the CMC, the RCU, State and district specialists and teacher educators.

2. Assisting the CMC in determining short and long range goals.

3. Assisting in securing qualified staff and coordinating professional development activities.

4. Establishing and operating a Curriculum Resources Center and administering a catalog, filing and retrieval system. This will include a films component to gather films, slide series, transparencies, etc. A resource catalog will be distributed to vocational educators so they may select and schedule these resources.

5. Securing and evaluating vocational curriculum materials produced at the local, state and national level.

6. Assisting in locating funding sources.

7. Assisting in the development and revision of a Vocational Education Curriculum Standards and Policies Manual.

8. Assisting the CMC in determining priorities.

9. Identifying and recommending to CMC the IMRC for each priority of work. The IMRC will be chaired by a CDU curriculum specialist.

10. Providing a resource researcher to assist the IMRC.

11. Assisting the RCU in conducting occupational task analysis surveys.

12. Recommending to CMC whether to procure, adapt or develop new materials.

13. Assisting RCU in feasibility studies to determine whether or not to contract development activities or develop in-house.

14. Identifying and recommending Curriculum Development Committees to CMC for each developmental activity. A CDU curriculum specialist will chair each Curriculum Development Committee.

15. Identifying and scheduling consultants for the IMRC and the Curriculum Development Committees.

16. Managing and monitoring the total curriculum development, adoption, revision, and procurement process.

17. Developing curriculum materials.

18. Editing all materials adapted or developed.

19. Coordinating the involvement of state and district specialists, teacher educators and teachers in the review of materials while they are in the developmental stages.

20. Giving final approval on materials before recommending to the CMC the initiation of pilot or field test.

21. Assisting the RCU in developing criteria for Request for Proposals.

22. Assisting RCU in preparing and processing request for curriculum proposals.

23. Assisting RCU in curriculum related proposals for private and federal funds.

24. Assisting RCU in monitoring contract developmental activities.

25. Developing progress and final reports for CMC.

26. Assisting RCU in establishing performance levels criteria for field test.

27. Organizing, monitoring, conducting pilot or field tests.

28. Training and providing supportive services for field test personnel.

29. Coordinating the revision of all materials.

30. Assisting field test site in securing hardware and software for program implementation.

31. Producing and delivering materials on time.

32. Coordinating the involvement of State and district specialists, teacher educators and teachers and administrators in field test reviews.

33. Coordinating field test evaluation.

34. Disseminating field test results.

35. Assisting in conducting feasibility studies for determining printing or producing materials in-house or contracting.

36. Establishing printing or production priorities and deadlines and coordinating the total printing/production process.

37. Coordinating the diffusion/dissemination process.

38. Monitoring and procuring assistance to teachers in utilizing materials.

39. Assisting the RCU in evaluation activities.

CURRICULUM DEVELOPMENT UNIT STAFFING PATTERNS AND JOB DESCRIPTIONS

Coordinator of CDU

Duties: The Coordinator of the CDU will assist the CMC in carrying out its responsibilities, including: (1) maintaining close liaison with all personnel in the State Department with vocational curriculum concerns, institutions of higher education, and local, regional and national educational agencies, and (2) responsibility for coordinating all activities outlined in the description of the CDU outline on the previous pages. However, the Coordinator's responsibilities will not be limited solely to those outlined activities.

Qualifications: The Coordinator should: (1) be a graduate from an accredited college or university with a doctor's degree and professional preparation in an approved curriculum of vocational education or will have had extensive experience in vocational education curriculum development and (2) have a comprehensive knowledge of curriculum research planning, development, production validation, diffusion/dissemination, implementation and evaluation and (3) with a proven managerial performance record.

Curriculum Development Specialist (12)

Duties: The Curriculum Development Specialist will assist the CDU Coordinator in doing the work that is outlined in the functions of the CDU. A brief summary of these functions include: (1) assisting on curriculum

research, including occupational task analysis surveys, (2) chairing the IMRC's and the Curriculum Development Committees, (3) assisting in assembling, analyzing and interpreting information concerning the need for types and kinds of curricula, (4) assisting in organizing, developing and monitoring the production of materials, (5) assisting with pilot or field test, (6) assisting in the diffusion/dissemination process, (7) assisting with evaluation activities, and (8) assisting in preparing educational personnel in adapting and using curriculum materials.

Qualifications: Each CDU Curriculum Specialist shall: (1) be a graduate from an accredited college or university with a six-year certification and professional preparation in an approved curriculum of vocational education, (2) have experience in teaching and business and industry, and (3) have the ability to write vocational education curriculum materials.

Curriculum Resources Researcher (1)

Duties: The Curriculum Resources Researcher will: (1) assist the CDU Coordinator and CDU staff in carrying out their duties and responsibilities; (2) develop and operate a Vocational Curriculum Resources Center; (3) administer a cataloging, filing and retrieval system for vocational education; (4) secure and evaluate vocational curriculum materials from the local, state and national level; (5) develop film library including films, slide series, transparencies, etc.; (6) distribute resources catalog for vocational educators to select and schedule materials; (7) provide supportive services to the Instructional Materials Review Committee; and (8) assist in editing materials.

Qualifications: The Curriculum Resources Researcher shall: (1) be a graduate of a recognized college or university with a master's degree in library science with a considerable background in English, (2) have professional experience in library work and/or experience in writing and editing, and (3) have a general knowledge of vocational education.

Media Specialist

Duties: The Media Specialist shall: (1) assist the CDU Coordinator and CDU Curriculum Specialist in carrying out their duties and responsibilities with major emphasis for those developmental activities and program support services related to illustrating and mediating curriculum materials, (2) assist the Curriculum Development Committees in illustrating and/or mediating their materials, (3) assist the Coordinator in overseeing the printing/production process, (4) provide supportive and consultative service to LEA's, (5) develop a systematic plan for the installation of media technology in curriculum materials, (6) assist in the development of a plan for cooperating with other state, regional and national curriculum development unit concerning mediated procedures and techniques, and (7) be responsible for reviewing and making budgets related to mediated materials and illustrate and prepare reports as requested.

Qualifications: The Media Specialist shall: (1) be a graduate of an accredited college or university with a bachelor's degree in professional preparation in media technology including art, (2) be capable of producing excellent art and producing audio-visual materials of high quality, and (3) have a general knowledge of vocational education, and (4) experience in media production.

Editor for Curriculum Materials

Duties: The editor will: (1) read manuscripts to find discrepancies, inconsistencies, and unclear or ambiguous statements and make suggestions on how to clear up problems, or rewrite; (2) make notes to raise questions or make specific recommendations involving organization of text, assignments or content; (3) check front matter, contents page, and back matter (bibliography, glossary) for completeness and accuracy; (4) check illustrations/figures against text for correctness and agreement with text; (5) mark grammatical and spelling errors where noticed; (6) work with staff writers on material in progress, discussing any editorial matters that arise; (7) on occasion, handle a manuscript from start to finish (plan layout, mark copy for typesetting, edit and rewrite copy, and proofread final copy); (8) review new manuscripts from outside writers, when requested, as to style, relevance, and readability prior to substantive editing; (9) proofread all typeset books; and (10) proof for content and final appearance as well as typographical errors and check again, after corrections have been made, for final approval. (These services may be provided on a contract basis.)

Qualifications: The editor will: (1) be a graduate from an accredited university or college with a bachelor's degree in English and professional experience in writing and editing, (2) have a comprehensive knowledge of vocational education, and (3) be capable of assessing reading levels of materials.

A RECOMMENDED APPROACH FOR PRE-SERVICE AND IN-SERVICE PROFESSIONAL DEVELOPMENT OF VOCATIONAL CURRICULUM PERSONNEL

There has long been concern about the curriculum imbalance and fragmentation caused by the shifting demands and priorities placed upon vocational education during different periods of social crises. Many outstanding individuals throughout the entire field of vocational education have emphasized the need for providing training for vocational education curriculum specialists. The need for such specialization has been recognized not only among "curriculum workers," but also among vocational administrators, supervisors, department chairpersons, deans, instructors, and teachers. These professionals are very often called upon to provide vocational education curriculum expertise.

Although a sizable body of literature exists in the general field of vocational education curriculum development, there have been few attempts to compile and synthesize this information for ready and flexible use by the professional teacher educator or the inservice administrator. The Vocational Education Curriculum Specialist materials developed by American Institute for Research, Palo Alto, California, represent one approach toward filling this gap. The materials are specifically designed to train the potential curriculum specialist according to identified competencies in the conceptualization, design, implementation, management, and evaluation of vocational-technical education curricula.

The competency-based VECS curriculum consists of learning units or modules. Six introductory modules were developed to bring students with minimal preparation in vocational education to readiness for training in a core program. Fifteen core modules constitute specialization units in curriculum and program

design, development, implementation, management, and evaluation. An additional module containing two seminars and a field experience unit provides opportunities for advanced professional application of the core competencies. A complete listing of module titles can be found in Figure 2 (page 51).

Each module of VECS curriculum deals with one or two aspects of vocational curriculum conceptualization, development, implementation, management, and evaluation. The sequence for using the modules is not necessarily directed by the module number, but rather by the desired topic or goals and objectives. For example, Introductory Modules 3, 4, and 5 emphasize the impact of legislation and organizational structure on vocational curriculum development; Introductory Modules 1, 2, and 6 are more concerned with basic pedagogical concepts related to the practical development of curriculum and curriculum management. Among the Core Modules, some emphasize instructional theory as it relates to curriculum, while others emphasize the actual development or evaluation of curriculum.

The best way to select the sequencing of modules whether in a graduate program of vocational education at an institution of higher education or an in-service professional development program, is to first determine overall program goals and objectives, and then evaluate VECS compatability with these goals. The goals, objectives, and a brief description for each of the VECS modules are provided in Appendix A.

The modules are contained in individual study guides. The study guides have five sections; each is described as follows:

1. Organization and Administration

   This section tells how the study guide is organized; what reference materials will be needed by students as well as a suggested bibliography of materials that will be helpful to the student; the purpose of the particular module and why it is relevant to a vocational curriculum worker; and what specific competencies the module emphasizes in terms of student outcomes.

Figure 2

VECS TITLES

A. INTRODUCTORY MODULES

1. The Scope of Vocational Education
2. Roles of Vocational Educators in Curriculum Management
3. Current Trends in Vocational Education
4. Organization of Vocational Education
5. Legislative Mandates for Vocational Education
6. The Preparation of Vocational Educators

B. CORE MODULES

1. Important Aspects of the Learner
2. Learning Processes and Outcomes
3. Applying Knowledge of Learning Processes and Outcomes to Instruction
4. Assessing Manpower Needs and Supply in Vocational Education
5. Laying the Groundwork for Vocational Education Curriculum Design
6. Selecting Instructional Strategies for Vocational Education
7. Derivation and Specification of Instructional Objectives
8. Development of Instructional Materials
9. Testing Instructional Objectives
10. Fiscal Management of Vocational Education Programs
11. Introducing and Maintaining Innovation
12. Managing Vocational Education Programs
13. Basic Concepts in Educational Evaluation
14. General Methods and Techniques of Educational Evaluation
15. Procedures for Conducting Evaluations of Vocational Education

C. SEMINARS AND FIELD EXPERIENCE MODULES

1. Seminars in Authority Roles and the Curriculum Specialist in Vocational Education
2. Leadership Styles and Functions of the Curriculum Specialist in Vocational Education
3. Field Work in Project Design and Administration
4. Operation of School Programs
5. Evaluation of School Programs
6. Educational Research and Development
7. State, Regional, and Federal Program Supervision

2. Content and Study Activities

This section provides a synthesis and analysis of concepts and information related to the goals and objectives of the module. This section provides the basic content of the module in outline form. The content outline provides the student with sufficient information to complete all of the learning activities in the study guide, enabling the student to achieve the required competencies of a particular module. This section also contains learning activities which are related to each goal area of the module.

3. Group and Classroom Activities

This section includes all suggested activities for the classroom or for small groups outside the classroom. These activities are keyed to the content outline in order to indicate the most appropriate time for participation. They could, however, be used at the discretion of the instructor any time during the module.

The second part of this section consists of discussion questions with suggested responses. As with the classroom activities, the discussion questions are keyed to related material in the content outline. The instructor may wish to use them to stimulate student summarization and synthesis of the module or a particular section of the module.

4. Student Self-Check

Part four of the study guide provides questions the student may use to check his knowledge and understanding of the module. The instructor may wish to assign the self-check or selected items on the self-check as an assessment instrument. The questions are directly derived from the goals and objectives of the module.

5. Appendices

Appendix A, in the last part of the study guide, includes the suggested responses to all student learning activities. Students may use the responses to check or compare their own answers.

Appendix B contains the suggested responses to the Student Self-Check.

Figure 3 (page 54) illustrates the major components of the each study guide.

The development of the VECS materials resulted not only in a set of instructional materials, but also in a comprehensive program plan creating a number of advantages important to administrators, some of which are:

- VECS provides a total system for a vocational education program. The curriculum consists of general concepts, objectives, scope and sequence, instructional materials, the installation guide, and support materials based on identified and documented competencies in vocational education curriculum.
- Stated goals and objectives allow for easy analysis of the curriculum in relation to its compatibility with departmental and institutional missions, goals, and objectives.
- The VECS materials can be used in a variety of settings allowing for instructor creativity and flexibility.
- The VECS modules can be used as inservice topics and activities for professional growth and development.
- The curriculum is designed for the master's level vocational education student and is also appropriate for advanced undergraduate students in vocational teacher education.
- The curriculum has a built-in evaluation system which can be translated into an accountability plan.

Figure 3

STUDY GUIDE COMPONENTS

Study Guide Teaching/Learning Module

PART I: MODULE ORGANIZATION AND ADMINISTRATION

- Guidelines for use of the module
- Overview and rationale
- Educational goals and performance objectives
- Recommended learning materials

PART II: CONTENT AND STUDY ACTIVITIES (Organized for each goal)

- Introduction
- Content outline
- Student learning activities

PART III: GROUP AND CLASSROOM ACTIVITIES (Organized for each goal)

- Activities
- Discussion questions

PART IV: STUDENT SELF-CHECK

- Knowledge assessment
- Performance assessment

PART V: APPENDICES

- Responses to student learning activities
- Responses to student self-check

The extensive pilot testing and the third-party field testing of the VECS materials ultimately pointed out a number of advantages clearly associated with the use of the VECS materials which instructors may wish to consider as they view the VECS materials for their own uses.

- The VECS curriculum has synthesized a significant amount of material and information into a concise content outline with associated individual and group activities.
- The materials allow for maximum instructor options by providing for both classroom involvement and independent study. The instructor has complete control over the degree and type of involvement for self and student.
- The materials have the capacity to provide immediate feedback to students.
- VECS can be adopted as a total program or as interrelated pieces of an existing program.
- The resource materials used to develop VECS provide a comprehensive reference guide for vocational education curriculum conception, development, management, installation and evaluation.
- The VECS approach allows for individual rates of learning, interests, and levels of achievement.
- The students know what they are expected to achieve and what is required from them.
- The VECS resources eliminate the necessity of purchasing many costly texts.
- Each module provides ideas, suggestions, and resources for many different activities.

- Students emerge with specific competencies in vocational education curriculum design, management and evaluation.

The "Installation Guide" offers an evaluation plan that provides potential users of the VECS program with a guide to monitor the implementation of the program and to assess its effectiveness. It is not a detailed plan, as each institutional setting has unique evaluation requirements. The VECS curriculum may be evaluated at three levels.

- Institutional level--by universities and colleges, state departments of education, local schools, professional organizations, or other adopting institutions.
- Instructional level--by instructors.
- Learning experience level--by students and instructors.

The questions introduced at the various levels are illustrative and should be added to and refined as necessary.

APPENDIX

APPENDIX A

MODULE CONTENT, EDUCATIONAL GOALS, AND PERFORMANCE OBJECTIVES

Introductory Modules

Module 1: The Scope of Vocational Education

Module 1 defines vocational education as it was conceived in 1917 and as it is currently perceived by educators and defined by legislation. It also explains how vocational education relates to general education, career education, community colleges, adult education, and special education. Module 1 ends with a summary of the growth of vocational education programs, the increasing effectiveness of vocational programs, its increasing financial needs, and the support of vocational education from federal, state, and local sources.

GOAL 1.1 ANALYZE AND INTERPRET THE MEANING OF VOCATIONAL EDUCATION IN TERMS OF LEGISLATION, PROGRAM, AND THE CONTEXT, OR ENVIRONMENT, IN WHICH VOCATIONAL EDUCATION IS FOUND.

Objectives
- 1.11 Define vocational education as it was conceived in 1917.
- 1.12 Define vocational education as it is currently perceived.
- 1.13 Define vocational education according to current legislation.
- 1.14 Explain how vocational education relates to general education.
- 1.15 Explain how vocational education relates to career education.
- 1.16 Explain how vocational education relates to education in the community college.
- 1.17 Explain how vocational education relates to adult education.
- 1.18 Explain how vocational education relates to special education.

GOAL 1.2 SYNTHESIZE AND PRESENT THE PURPOSES AND FUNDAMENTAL CONCEPTS OF VOCATIONAL EDUCATION.

Objectives
- 1.21 Describe the major philosophic concepts of vocational education.
- 1.22 Describe the major economic concepts of vocational education.
- 1.23 Describe the major sociological concepts of vocational education.
- 1.24 List the three basic objectives of vocational education.
- 1.25 Define the basic objectives of vocational education by providing examples and descriptions of each.
- 1.26 Explain the major contributions of vocational education to American society.
- 1.27 Provide a written rationale of the need for vocational education in the future.

GOAL 1.3 PRESENT SUMMARY DATA ON THE GROWTH, OUTREACH, AND EFFECTIVENESS OF VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 1.31 Compare past and present data regarding the numbers and kinds of people served by vocational education.
- 1.32 List characteristics of the people served by vocational education.
- 1.33 Describe vocational education enrollment at the various educational levels.
- 1.34 Describe vocational education enrollment in the occupational areas served.
- 1.35 Describe the financial support for vocational education from an historical viewpoint.
- 1.36 Compare financial support for vocational education among federal, state, and local sources.
- 1.37 Compare financial support of vocational education among the various educational levels.

Module 2: Roles of Vocational Educators in Curriculum Management

Module 2 analyzes six general functions in the management of a vocational education curriculum. It also identifies nine different types of personnel involved in curriculum management and the degree of involvement of each. The module stresses the ways in which curriculum management differs in a community college, a comprehensive high school, and an area vocational school.

GOAL 2.1 ANALYZE AND SUMMARIZE THE GOALS AND FUNCTIONS OF CURRICULUM MANAGEMENT IN VOCATIONAL EDUCATION.

Objectives
- 2.11 Define curriculum management.
- 2.12 Identify the six general functions of vocational education curriculum management.
- 2.13 Identify specific activities for each function of curriculum management.
- 2.14 Identify four approaches to curriculum selection and organization for vocational education programs.

GOAL 2.2 EXPLAIN THE INVOLVEMENT OF DIFFERENT VOCATIONAL EDUCATION PERSONNEL IN CURRICULUM MANAGEMENT AND PRESENT A RATIONALE OF THE NEED FOR VOCATIONAL EDUCATION CURRICULUM SPECIALISTS.

Objectives
- 2.21 Identify nine different types of personnel involved in curriculum management.
- 2.22 Estimate the degree of involvement for each type of personnel in curriculum management.
- 2.23 Describe the major roles of each type of personnel in curriculum management.
- 2.24 Identify the particular contributions a vocational education curriculum specialist can make in curriculum management.
- 2.25 Describe the advantages and disadvantages of concentrating responsibility for a vocational education agency's curriculum management functions under one curriculum specialist.
- 2.26 Identify three ways in which curriculum management differs in a community college, a comprehensive high school, and an area vocational school.

Module 3: Current Trends in Vocational Education

Module 3 describes how changes in the world of work affect vocational education and the accuracy of manpower forecasting. It also describes current knowledge about future employment opportunities and probable changes in the make-up of the work force. This module also discusses how cooperative work education, work experience education, work-study programs, and simulation programs can supplement classroom instruction. The module ends with a discussion of the special problems of vocational education in meeting the needs of disadvantaged students.

GOAL 3.1 ANALYZE AND SUMMARIZE HOW CHANGES IN THE WORLD OF WORK AFFECT VOCATIONAL EDUCATION; EXPLAIN THE RELATIONSHIP BETWEEN VOCATIONAL EDUCATION AND MANPOWER FORECASTING, AND THE DIFFICULTIES INVOLVED IN MAKING ACCURATE MANPOWER FORECASTS.

Objectives

3.11 State the most basic problem preventing vocational education from meeting the manpower needs of the nation.

3.12 Describe how vocational education is generally affected during periods of recognized manpower shortage and during periods when the most acute manpower shortages have been met.

3.13 Relate the value of manpower forecasting to the vocational education planning process.

3.14 Identify four specific factors that make accurate manpower forecasting a difficult task.

GOAL 3.2 SYNTHESIZE CURRENT KNOWLEDGE ABOUT THE FUTURE OF WORK IN AMERICA AND PROJECTED CHANGES IN THE WORK FORCE.

Objectives

3.21 Specify the two major divisions of America's work force and determine which division has the greatest number of workers.

3.22 Determine specific occupations for which there is and will be decreased demand due to technological advances.

3.23 Determine specific occupations for which there is and will be increased demand.

3.24 Identify the industry division in which employment has grown the fastest.

3.25 Establish the trend in number of white-collar workers versus blue-collar workers.

3.26 Determine the major occupational group in which women are employed.

3.27 Identify the age group for which unemployment is the highest.

3.28 Determine the difference in unemployment rates for blacks and whites.

3.29 Determine the educational level of the majority of American workers.

3.210 Determine the approximate number of women in the work force and the expected representation by 1980.

GOAL 3.3 ASSESS CURRENT CONCEPTS, VALUES, AND OBJECTIVES OF PROVIDING STUDENTS WITH JOB EXPERIENCE TO SUPPLEMENT CLASSROOM INSTRUCTION, NAMELY, COOPERATIVE WORK EDUCATION, WORK EXPERIENCE EDUCATION, WORK-STUDY PROGRAMS, AND SIMULATION.

Objectives

3.31 Define the following terms: cooperative education, work experience, work-study, simulation.

3.32 List one benefit of cooperative education for each of the following: the school, the student, the employer, the community.

3.33 List two specific ways in which the 1968 Amendments to the Vocational Education Act of 1963 aided cooperative vocational education programs.

3.34 State the general conclusion of the Advisory Council on Vocational Education regarding the effectiveness of cooperative education programs.

3.35 List two specific difficulties, or disadvantages, of cooperative education programs.

3.36 Describe how simulation might enhance a cooperative vocational program.

3.37 List the four basic parts of a simulation.

GOAL 3.4 PRESENT AND ANALYZE THE SPECIAL PROBLEMS OF VOCATIONAL EDUCATION IN MEETING THE NEEDS OF DISADVANTAGED STUDENTS AND QUESTION HOW WELL THESE NEEDS ARE BEING MET.

Objectives

3.41 Identify the percentage of "disadvantaged" in the American population.

3.42 Define the term "disadvantaged" according to the Vocational Education Amendments of 1968.

3.43 Identify the vocational education legislation that allocated funds specifically for the disadvantaged.

3.44 List three reasons why only a small portion of the disadvantaged are being reached by vocational education.

3.45 Review major policy recommendations of the National Advisory Council on Vocational Education regarding education of the disadvantaged.

3.46 Explain the general attitude of three different minority groups toward vocational education programs.

Module 4: Organization of Vocational Education

Module 4 describes the underlying principles and philosophy of the administration of vocational education as well as the organization and funding of vocational education at the federal, state, and local levels of government. It also describes the purposes and relationships of the various institutional organizations that offer vocational programs. The module ends with a description of functions and responsibilities of advisory committees on the local, state, and national level.

GOAL 4.1 PRESENT, ANALYZE, AND SYNTHESIZE INFORMATION AND CONCEPTS OF THE ADMINISTRATIVE ORGANIZATION AND FUNDING OF VOCATIONAL EDUCATION AT THE FEDERAL, STATE, AND LOCAL LEVELS AND THE UNDERLYING PRINCIPLES AND PHILOSOPHY OF VOCATIONAL EDUCATION ADMINISTRATION.

Objectives

4.11 Identify the first federal agency concerned with the administration of vocational education.

4.12 Compare the prestige and organizational status of the first federal agency for the administration of vocational education with that of the present federal agency.

4.13 Determine the number of years the Federal Government has been involved in vocational education.

4.14 List the organizations responsible for the administration of vocational education on the federal, state, and local levels.

4.15 Identify the administrative level legally responsible for vocational education.

4.16 Describe the highest hierarchal position for a state director of vocational education.

4.17 Describe how state divisions of vocational education have traditionally been organized and how recent federal legislation for vocational education has affected this traditional organizational pattern.

4.18 Describe the requirements of the Vocational Education Act of 1963 regarding the composition of a state board for vocational education.

4.19 Identify the most common method for recruiting members for a state board for vocational education.

4.110 Illustrate the typical organizational pattern for the administration of vocational education at the local level.

4.111 State the purpose of federal funding for vocational education as of 1968.

4.112 Review the specific occupational categories for which federal funding was first provided.

4.113 Identify the most recent legislation that marked the turning point for increased federal funding of vocational education.

4.114 Determine the ratio of federal-to-state funds required by VEA, Part B, for states to be eligible for federal funding.

4.115 List the three basic requirements a state must meet to obtain federal funding for vocational education.

4.116 Describe the purpose of a state plan for vocational education.

4.117 Identify three specific planning requirements of the Vocational Education Amendments of 1968 for local educational agencies applying for federal funds.

4.118 Identify a general principle of financing vocational education that was established by early federal legislation.

4.119 List three general principles of vocational education administration established by early federal legislation that have persisted throughout the years.

GOAL 4.2 EXPLAIN THE PURPOSES AND RELATIONSHIPS OF THE VARIOUS INSTITUTIONAL ORGANIZATIONS THAT CONDUCT PROGRAMS OF VOCATIONAL EDUCATION, THE TYPES OF VOCATIONAL PROGRAMS OFFERED BY THESE ORGANIZATIONS, AND THE GENERAL CHARACTERISTICS OF STUDENTS ENROLLED IN THESE PROGRAMS.

Objectives
4.21 Identify three types of secondary school institutions that provide vocational education programs.
4.22 Identify three types of postsecondary school institutions that provide vocational education programs.
4.23 Compare and contrast the general characteristics of secondary vocational students with the general characteristics of postsecondary vocational students.
4.24 Recognize the specific vocational programs for which enrollment is the greatest at the secondary and postsecondary levels.
4.25 Identify the type of educational institution in which vocational education programs are most prevalent.
4.26 Recommend types of secondary and postsecondary institutions most likely to offer the greatest variety of vocational education programs.
4.27 List two reasons why vocational education usually begins in high school.
4.28 State the three principal curricula offered in the high schools of the United States and the three principal curricula offered in the community colleges of the United States.
4.29 Describe the basic arguments for and against the maintenance of separate vocational high schools.
4.210 State the difficulties of private vocational schools in recruiting students.

GOAL 4.3 UNDERSTAND, ANALYZE, AND SUMMARIZE THE FUNCTIONS AND RESPONSIBILITIES OF NATIONAL, STATE, AND LOCAL ADVISORY COMMITTEES WITHIN THE ORGANIZATIONAL STRUCTURE OF VOCATIONAL EDUCATION.

Objectives
4.31 Describe the legislative requirements, if any, for local, state, and national advisory committees.
4.32 Identify the role that national advisory committees have played in the development of recent vocational education legislation.
4.33 Describe the organizations represented in the membership of the National Advisory Council on Vocational Education.
4.34 List the three specific duties of a state advisory council.
4.35 Describe three types of local advisory committees and the general role of each type.

Module 5: Legislative Mandates for Vocational Education

Module 5 explains the significance of early and contemporary federal legislation for vocational education. The module also describes the economic, political, professional, and social factors that provided the basis for and led to the enactment of the major pieces of vocational education legislation including the Smith-Hughes Act of 1917, the Vocational Education act of 1963, the Vocational Education Amendments of 1968, and the proposed Vocational Education Amendments of 1975-76.

GOAL 5.1 SUMMARIZE AND EXPLAIN THE SIGNIFICANCE OF EARLY AND CONTEMPORARY FEDERAL LEGISLATION FOR VOCATIONAL EDUCATION.

Objectives
- 5.11 Given a descriptive statement of a significant piece of vocational education legislation, identify, with the help of reference material, the legislation to which the statement refers.
- 5.12 State the significance of the three major pieces of vocational education legislation, namely, the Smith-Hughes Act of 1917, the Vocational Education Act of 1963, and the Vocational Education Amendments of 1968.

GOAL 5.2 REVIEW AND SYNTHESIZE THE NATIONAL STUDY PANEL REPORTS THAT PROVIDED THE BASIS FOR THE THREE MAJOR PIECES OF VOCATIONAL EDUCATION LEGISLATION, NAMELY, THE SMITH-HUGHES ACT OF 1917, THE VOCATIONAL EDUCATION ACT OF 1963, AND THE VOCATIONAL EDUCATION AMENDMENTS OF 1968.

Objectives
- 5.21 Identify the specific national study panel and its report that provided the basis for the Smith-Hughes Act of 1917.
- 5.22 Identify the specific national study panel and its report that provided the basis for the Vocational Education Act of 1963.
- 5.23 Identify the specific national study panel and its report that provided the basis for the Vocational Education Amendments of 1968.
- 5.24 List the economic, social, educational, and individual needs for vocational education as described by the Commission on National Aid to Vocational Education (1914), the Panel of Consultants on Vocational Education (1961-1962), and the Advisory Council on Vocational Education (1968).
- 5.25 Compare and contrast the needs for vocational education as identified by the Commission on National Aid to Vocational Education (1914), the Panel of Consultants on Vocational Education (1961-1962), and the Advisory Council on Vocational Education (1968).

GOAL 5.3 ANALYZE THE ECONOMIC, POLITICAL, PROFESSIONAL, AND SOCIAL FACTORS OF THE TIMES THAT LED TO THE LEGISLATIVE ENACTMENT OF THE SMITH-HUGHES ACT OF 1917, THE VOCATIONAL EDUCATION ACT OF 1963, THE VOCATIONAL EDUCATION AMENDMENTS OF 1968, AND THE PROPOSED VOCATIONAL EDUCATION AMENDMENTS OF 1975-76.

Objectives
- 5.31 Identify the key economic, political, professional, and social factors that affected the enactment of the Smith-Hughes Act of 1917.
- 5.32 Identify the key economic, political, professional, and social factors that affected the enactment of the Vocational Education Act of 1963.
- 5.33 Identify the key economic, political, professional, and social factors that affected the enactment of the Vocational Education Amendments of 1968.
- 5.34 Describe the status and progress of current legislation in regard to the proposed Vocational Education Amendments of 1975-76.

Module 6: The Preparation of Vocational Educators

Module 6 begins with a description of four legislative acts that supported vocational teacher education. It describes the major components of most current teacher preparation programs and the activities which should be included in a complete program of vocational teacher education. The module also describes typical certification requirements for secondary vocational teachers, post-secondary vocational teachers, and vocational supervisors and administrators. The module ends with a description of the major needs for improving the process of preparing and certifying vocational educators, and suggests recent trends that should be encouraged and followed on the local and national levels.

GOAL 6.1 SUMMARIZE AND ANALYZE THE BACKGROUND OF VOCATIONAL TEACHER EDUCATION AND THE PRESENT PROGRAMS AND INSTRUCTIONAL PRINCIPLES OF VOCATIONAL EDUCATION.

Objectives
- 6.11 Identify four legislative acts that supported vocational teacher education.
- 6.12 Define vocational teacher education.
- 6.13 Differentiate between preservice and inservice education.
- 6.14 Describe the general preparation programs for three different service areas.
- 6.15 Name the four major components of most current teacher preparation programs.
- 6.16 List those activities which should be included in a complete program of vocational teacher education.
- 6.17 Identify at least four approaches to inservice education.
- 6.18 List at least ten principles of vocational instruction.

GOAL 6.2 ASSESS PRESENT PRACTICES IN THE CERTIFICATION OF VOCATIONAL EDUCATORS.

Objectives
- 6.21 Define vocational teacher certification.
- 6.22 Indicate the source of information that explains certification requirements of any given state.
- 6.23 Describe typical certification requirements for secondary vocational teachers, post-secondary vocational teachers, and vocational supervisors and administrators.

GOAL 6.3 SYNTHESIZE THE MAJOR NEEDS FOR IMPROVEMENT IN THE PREPARATION AND CERTIFICATION OF VOCATIONAL EDUCATORS.

Objectives
- 6.31 Explain why teachers need a broad liberal education in addition to occupational competency.
- 6.32 Describe the two organizational approaches for vocational teacher education in an institution of higher education.
- 6.33 Identify two advantages of a unified department of vocational education.
- 6.34 Explain two problems associated with the occupational experience requirement for vocational teachers.
- 6.35 List two benefits to teachers derived from the occupational experience requirement
- 6.36 Name five groups of people with special needs that vocational teachers with additional training and experiences could conceivably assist.

GOAL 6.4 PRESENT AND EXPLAIN RECENT TRENDS IN THE PREPARATION OF VOCATIONAL EDUCATORS.

Objectives
- 6.41 Define competency-based teacher education.
- 6.42 Describe the purpose of EPDA.
- 6.43 Describe the recent educational emphasis upon education for vocational curriculum specialists.

Core Modules

Module 1: Important Differences Among Learners

Module 1 presents information on the variety of learner characteristics that are important in the learning process. It also describes ways of studying individual differences among learners and discusses how these differences can affect vocational education programs.

GOAL 1.1 PRESENT, ANALYZE, AND SYNTHESIZE INFORMATION ON THE WAYS IN WHICH LEARNERS MAY BE SIMILAR AND/OR DIFFERENT AND HOW THESE INDIVIDUAL CHARACTERISTICS ARE IMPORTANT IN THE LEARNING PROCESS.

Objectives
- 1.11 Indicate several reasons why knowledge of individual differences is important in vocational education planning.
- 1.12 Describe many of the similarities that can occur among learners.
- 1.13 Identify the developmental tasks of various age groups in the vocational education program.
- 1.14 Specify several ways in which individual learners may differ.
- 1.15 Explain why similarities and differences among learners are likely to occur.
- 1.16 Analyze the role of the self concept in individual adjustment.
- 1.17 Indicate how group membership can influence individual characteristics.
- 1.18 Describe several methods of adjustment used by developing individuals.
- 1.19 Explain several cautions that must be used when identifying individual differences.

GOAL 1.2 DESCRIBE THE WAYS OF STUDYING INDIVIDUAL DIFFERENCES AMONG LEARNERS.

Objectives
- 1.21 Specify the importance of systematic methods of gathering information about learners.
- 1.22 Outline several cautions that must be used when studying individuals.
- 1.23 Describe several formal and informal methods of gathering information about learners.
- 1.24 Synthesize individual data for purposes of planning instruction for an individual learner.
- 1.25 Identify individual problem areas for further study.
- 1.26 Examine your own feelings about the learner being studied and identify any biases that might affect your judgment.

GOAL 1.3 STATE HOW INDIVIDUAL DIFFERENCES CAN AFFECT VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 1.31 Describe some of the difficulties that can arise as a result of individual differences.
- 1.32 Suggest several strategies for incorporating individual differences within vocational education programs.
- 1.33 Analyze these strategies in terms of potential effect on vocational education programs.

Module 2: Learning Processes and Outcomes

Module 2 breaks down the learning process into individual acts of learning. It identifies behavior patterns that are evidence of verbal learning, motor learning, cognitive learning, as well as attitudinal changes. The module ends with a discussion of why each type of learning is critical to vocational education programs.

GOAL 2.1 UNDERSTAND HOW KNOWLEDGE OF LEARNING CONCEPTS CAN BE APPLIED IN THE PLANNING OF VOCATIONAL INSTRUCTION.

Objectives
- 2.11 Develop a rationale for the understanding of learning principles by the vocational curriculum specialist.
- 2.12 Define "learning" and explain why learning is the primary goal of instruction.
- 2.13 Explain how learning concepts can help the vocational teacher to provide more effective instruction.
- 2.14 Explain how knowledge of learning concepts can facilitate curriculum design and development.

GOAL 2.2 KNOW WHAT STEPS TAKE PLACE IN AN ACT OF LEARNING AND WHY EACH STEP IS IMPORTANT IN VOCATIONAL INSTRUCTION.

Objectives
- 2.21 List the phases in an act of learning.
- 2.22 Specify the process associated with each phase.
- 2.23 Show, with examples, how each step is included in learning knowledge, skills, and attitudes in a vocational course.
- 2.24 Specify the motivational functions of the vocational instructor and how various features of the learning situation can affect motivation.

GOAL 2.3 DESCRIBE THE IMPORTANCE OF EACH OF THE FOLLOWING CATEGORIES OF LEARNING OUTCOMES IN VOCATIONAL EDUCATION: VERBAL INFORMATION, INTELLECTUAL SKILLS, COGNITIVE STRATEGIES, ATTITUDES, AND MOTOR SKILLS.

Objectives
- 2.31 Define each of these capabilities with regard to learning.
- 2.32 Demonstrate how vocational instruction enhances each of these capabilities.
- 2.33 Identify behavior patterns that are evidence of the development of each of the capabilities.

Module 3: Applying Knowledge of Learning Processes and Outcomes to Instruction

Module 3 describes how the characteristics of the learning process affect the goals and objectives of vocational education programs and classroom instruction. The module also describes in detail how to establish the conditions necessary for individual learning in the classroom. Special emphasis is given to techniques for individualizing classroom instruction to meet the individual needs of vocational students.

GOAL 3.1 KNOW WHAT INFLUENCES AFFECT THE GOALS AND OBJECTIVES OF VOCATIONAL EDUCATION PROGRAMS AND HOW INSTRUCTIONAL OBJECTIVES ARE DETERMINED AT THE CLASSROOM LEVEL.

Objectives
- 3.11 Specify how the following influences help to determine program objectives in vocational education and how they have their influence: national priorities, state priorities, manpower needs, institutional goals.
- 3.12 Specify how the following influences determine instructional objectives at the classroom level in vocational education, and how they have their influence: program objectives, teachers, students, parents.

GOAL 3.2 KNOW WHAT CONDITIONS MUST BE ESTABLISHED IN THE CLASSROOM TO SUPPORT VARIOUS LEARNING OUTCOMES.

Objectives
- 3.21 Specify the characteristics of a good performance objective.
- 3.22 Write a good performance objective for each type of learning outcome for use in a vocational course.
- 3.23 Specify the conditions of learning that best support each type of learning outcome; illustrate with examples from vocational education.

GOAL 3.3 KNOW HOW TO PLAN INSTRUCTION TO ESTABLISH THE COND. IONS NECESSARY FOR LEARNING.

Objectives
- 3.31 Describe the following aspects of course planning: identification of multiple learning goals, arrangements of sequences of prerequisites.
- 3.32 Explain how each aspect of course planning influences course structure in vocational education.
- 3.33 Describe the events in a lesson; relate each to the appropriate learning step.
- 3.34 Show, by example, how to plan for each event in a lesson in a vocational class.

GOAL 3.4 KNOW HOW TO DELIVER INSTRUCTION TO MEET INDIVIDUAL NEEDS.

Objectives
- 3.41 List the assumptions that underlie group instruction; evaluate the validity of these assumptions.
- 3.42 Show, by example, how vocational instruction can be individualized.
- 3.43 Show, by example, how tutorial instruction and self-instruction can be realized in vocational education.

Module 4: Assessing Manpower Needs and Supply in Vocational Education

Module 4 begins with a description of the different manpower and economic analyses used to plan vocational education programs. Special attention is given to the purposes of and approaches for conducting job market analyses, manpower forecasting, and population needs analysis. Eight sources of employment statistics that directly affect the planning of vocational education programs are studied in detail.

GOAL 4.1 DEFINE AND DIFFERENTIATE BETWEEN THE TYPES OF MANPOWER AND ECONOMIC ANALYSES USED IN VOCATIONAL EDUCATION.

Objectives
- 4.11 Define task analysis.
- 4.12 Define occupational analysis.
- 4.13 Define job analysis.
- 4.14 Define instructional analysis.
- 4.15 Define population needs analysis.
- 4.16 Define job market analysis.

GOAL 4.2 BE AWARE OF AND BE ABLE TO USE AT LEAST FIVE SOURCES OF EMPLOYMENT STATISTICS THAT DIRECTLY AFFECT THE PLANNING OF VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 4.21 Describe the type of information that can be found in the Occupational Outlook Handbook.
- 4.22 Describe the type of information that can be found in Tomorrow's Manpower Needs.
- 4.23 Describe the type of information that can be found in The Occupational Outlook Quarterly.
- 4.24 Describe the type of information that can be found in The National Planning Association.
- 4.25 Describe the type of information that can be found in the Manpower Report of the President.
- 4.26 Describe the type of information that can be found in the Vocational and Technical Education U.S. Office of Education Annual Report.
- 4.27 Describe the information that can be found in Meeting Tomorrow's Manpower Needs.
- 4.28 Describe the type of information that can be found in the Dictionary of Occupational Titles.
- 4.29 Describe the type of information that can be found in the State Employment Services publications.

GOAL 4.3 EXPLAIN THE PURPOSES OF AND APPROACHES FOR CONDUCTING JOB MARKET ANALYSIS AND MANPOWER FORECASTING.

Objectives
- 4.31 Describe how employer surveys are conducted and used in vocational education.
- 4.32 Describe how econometric studies are conducted and used in vocational education.
- 4.33 Describe how job vacancy surveys are conducted and used in vocational education.
- 4.34 Describe how extrapolation of trends surveys are conducted and used in vocational education.
- 4.35 Describe how literature surveys are conducted and used in vocational education.

GOAL 4.4 EXPLAIN THE PURPOSE OF AND THE PROCEDURES FOR POPULATION NEEDS ANALYSIS.

Objectives
- 4.41 Describe how to assess national, regional, and local student needs and interests.
- 4.42 Describe how to assess existing business and industrial training programs available in the community.
- 4.43 Describe how to assess existing public and private education programs.

Module 5: Laying the Groundwork for Vocational Education Curriculum Design

Module 5 is designed to provide the student with experiences that will enable him to plan, write, and present an occupational program proposal. The first part of the module is concerned with the "pre-planning process" which includes reviewing and evaluating vocational programs, estimating needs, identifying alternatives for meeting needs, and making recommendations for future program development. The second part of the module explains how to conduct a preliminary program investigation. And finally, the last section of the module features suggestions and simulated group activities that demonstrate how to present program proposals to a curriculum approval board.

GOAL 5.1 EXPLAIN, ANALYZE, AND UTILIZE TECHNIQUES FOR PRE-PLANNING OF VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 5.11 Review and evaluate the present status of vocational education programs.
- 5.12 Estimate present and future vocational education program needs.
- 5.13 Identify alternatives for meeting vocational education program needs.
- 5.14 Make recommendations for present and future vocational education program development.

GOAL 5.2 CONDUCT A COMPLETE PRELIMINARY INVESTIGATION IN PREPARATION FOR INITIATING A NEW VOCATIONAL EDUCATION PROGRAM.

Objectives
- 5.21 Provide basic information for promoting a new occupational program including a complete job description, a rationale and justification for the program, and suggestion of sources for additional information about the occupation.
- 5.22 Describe the employment picture related to a specific occupational program.
- 5.23 Describe the current status of a specific occupational program in relation to the total vocational education program.
- 5.24 Describe the economic considerations related to the occupational program.
- 5.25 Describe personnel considerations relevant to program development.
- 5.26 Describe work experience considerations related to program development.
- 5.27 Describe any considerations related to union and/or community attitudes regarding the specific occupational program.

GOAL 5.3 COMPLETE THE PRE-PLANNING PROCESS FOR VOCATIONAL EDUCATION PROGRAM DEVELOPMENT THROUGH PROMOTION AND FOLLOW-THROUGH ACTIVITIES.

Objectives
- 5.31 Discuss the proposed occupational program with interested faculty and administrators.
- 5.32 Discuss the proposed occupational program with educational decision makers.
- 5.33 Present program to district/area curriculum planning committee.
- 5.34 Form interim advisory committee.

Module 6: Selecting Instructional Strategies for Vocational Education

The first part of the module describes the characteristics of a variety of instructional strategies used to organize vocational education content to ensure that program objectives are met effectively and efficiently. It discusses different uses of the cluster approach, unit shops, work-study programs, and cooperative education programs. Next, the module describes the standards and criteria to use to select the most appropriate instructional strategy for a given group of students, a selected content area, and a particular geographic, economic, and social situation. The module ends with a description of the impact the school organization can have on the selection of instructional strategies.

GOAL 6.1 DESCRIBE THE CHARACTERISTICS OF A VARIETY OF INSTRUCTIONAL STRATEGIES FOR ORGANIZING VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 6.11 Describe the characteristics of the clusters, families, or common elements of occupations approach to vocational education.
- 6.12 Describe the characteristics of the pyramid cluster model, the vertical-hierarchical cluster model, and the functions of industry model in vocational education.
- 6.13 Describe the advantages of the pyramid cluster model, the vertical-hierarchical cluster model, and the functions of industry cluster model.
- 6.14 Identify five or more concerns associated with the development or operation of a cluster program in vocational education.
- 6.15 Develop guidelines for handling at least five different concerns in the development or operation of a cluster program in vocational education.
- 6.16 Describe the characteristics of the unit shop area of specialization approach to vocational education.
- 6.17 Describe the characteristics of the work-study approach to organizing vocational education programs.
- 6.18 Describe the characteristics of the cooperative approach to organizing vocational education programs.

GOAL 6.2 EXPLAIN AND USE SPECIFIC STANDARDS FOR SELECTING CURRICULUM EXPERIENCES FOR VOCATIONAL EDUCATION PROGRAMS.

Objectives
- 6.21 Identify and use standards for validating curriculum content.
- 6.22 Identify and use standards for determining the relevance of curriculum content for vocational education programs.
- 6.23 Identify and use standards for determining the breadth and depth of vocational education curriculum.
- 6.24 Identify and compare designations of curriculum materials.

GOAL 6.3 COMPARE AND CONTRAST CURRICULUM SELECTION FOR DIFFERENT EDUCATIONAL LEVELS.

Objectives
- 6.31 Identify and describe the unique characteristics of a vocational curriculum at the secondary level.
- 6.32 Identify and describe the unique characteristics of a vocational curriculum at the postsecondary level.

GOAL 6.4 ANALYZE AND DESCRIBE THE RELATIONSHIP OF CURRICULUM DESIGN TO THE ORGANIZATIONAL CONDITIONS UNDER WHICH IT FUNCTIONS.

Objectives 6.41 Recognize the formal and informal aspects of organization which influence curriculum selection.
6.42 Identify innovative curriculum characteristics that have implications for organization.

Module 7: Derivation and Specification of Instructional Objectives

This module describes the necessary preparatory steps for the systematic derivation of instructional objectives including writing a job description, listing the tasks for a given occupation, and determining the major characteristics of the target population. The module also describes the four components of instructional objectives: 1) a description of the garget population; 2) the behavior or performance expected of the students; 3) the conditions under which the students are to perform; and 4) the standards or criteria of acceptable performance.

GOAL 7.1 PERFORM THE NECESSARY PREPARATORY STEPS FOR SYSTEMATIC DERIVATION OF INSTRUCTIONAL OBJECTIVES.

Objectives 7.11 Locate or write a job description for a given occupation.
7.12 List and detail the tasks for a given occupation.
7.13 Select given occupational tasks for school instruction.
7.14 Determine the major characteristics of the target population.
7.15 Determine course prerequisites.

GOAL 7.2 SPECIFY INSTRUCTIONAL OBJECTIVES.

Objectives 7.21 State the importance of specifying instructional objectives.
7.22 Given one component of an instructional objective, identify whether that component describes: 1) the target audience; 2) the specific behavior or performance expected of the student as a result of instruction; 3) the conditions under which the student is expected to behave or perform; 4) the standards or criteria of acceptable performance.
7.23 Given tasks for a specific occupation, develop instructional objectives for these tasks.
7.24 List five sources for obtaining existing objectives.

Module 8: Development of Instructional Materials

This module describes how to select instructional strategies (teaching methods and media devices) that are appropriate for each of the three domains of learning: cognitive, affective, and psychomotor. It also identifies the basic criteria and common principles for organizing and sequencing instruction. The module ends with a discussion on how to develop a lesson plan for a unit of instruction.

GOAL 8.1 SELECT INSTRUCTIONAL STRATEGIES (TEACHING METHODS AND MEDIA DEVICES) FOR ACCOMPLISHING INSTRUCTIONAL OBJECTIVES.

Objectives
- 8.11 Describe five general principles for the selection of learning experiences.
- 8.12 Given a specific occupational task, identify the type of performance primarily associated with each step of the task.
- 8.13 Identify teaching methods that are appropriate for each of the three domains of learning: cognitive, affective, and psychomotor.
- 8.14 Given specific instructional objectives, select an instructional strategy for accomplishing each.
- 8.15 Judge the quality of commercial instructional materials.

GOAL 8.2 ORGANIZE INSTRUCTION.

Objectives
- 8.21 Identify basic criteria and common principles of organizing instruction.
- 8.22 Recognize ways of sequencing instruction.
- 8.23 Develop a lesson plan for a unit of instruction.

Module 9: Testing Instructional Objectives

Module 9 describes the differences between norm-referenced measurement and criterion-referenced measurement on the basis of variability, item construction, reliability, validity, item analysis, and reporting and interpretation. It also describes how to assess student achievement of instructional objectives in the cognitive, affective, and psychomotor domains. Finally, the module describes how to develop an evaluation plan and test instruments for assessing student achievement of the instructional objectives for a given unit of instruction.

GOAL 9.1 UNDERSTAND THE CONCEPT OF CRITERION-REFERENCED MEASUREMENT WITHIN THE FRAMEWORK OF EDUCATIONAL EVALUATION.

Objectives
- 9.11 Define the following terms: educational evaluation, educational measurement, criterion-referenced testing, and norm-referenced testing.
- 9.12 Identify the historical conditions that gave impetus to the use of criterion-referenced measurement.
- 9.13 Given a specific characteristic, determine whether that characteristic describes a norm-referenced test or a criterion-referenced test.
- 9.14 Distinguish between norm-referenced measurement and criterion-referenced measurement on the basis of: variability, item construction, reliability, validity, item analysis, and reporting and interpretation.
- 9.15 State the possible shortcomings of commercially produced criterion-referenced tests.

GOAL 9.2 SELECT APPROACHES/TECHNIQUES FOR ASSESSING STUDENT ACHIEVEMENT OF INSTRUCTIONAL OBJECTIVES IN THE THREE DOMAINS OF LEARNING.

Objectives
- 9.21 Recognize appropriate techniques for assessing student achievement of instructional objectives in the cognitive, affective, and psychomotor domains.
- 9.22 Identify the two basic types of written test questions and describe the advantages and limitations of each.
- 9.23 Define the term "performance test" and specify basic procedures for testing performance.
- 9.24 Select approaches/techniques for assessing student achievement of instructional objectives of a given unit of instruction.

GOAL 9.3 DEVELOP AN EVALUATION PLAN AND CONSTRUCT TEST INSTRUMENTS FOR MEASURING STUDENT ACHIEVEMENT OF INSTRUCTIONAL OBJECTIVES.

Objectives
- 9.31 Given an instructional objective stated in behavioral terms and a list of possible test items, identify those test items that would be appropriate for assessing the objective.
- 9.32 Develop an evaluation plan for assessing student achievement of the instructional objectives for a given unit of instruction.
- 9.33 Construct test instruments for assessing student achievement of the instructional objectives for a given unit of instruction.

Module 10: Fiscal Management of Vocational Education Programs

Module 10 begins with a discussion of how an accountability system can be implemented into a school system. Next, the basic characteristics of four fiscal management plans are explained. Finally, the module describes how to prepare the components of a proposal requesting funding of a program or project in vocational education.

GOAL 10.1 DESCRIBE THE CONCEPT OF ACCOUNTABILITY IN EDUCATION.

Objectives
- 10.11 Define the concept of accountability in education.
- 10.12 Describe the role of the vocational curriculum specialist in the accountability system.
- 10.13 List the four necessary components of an accountability system.

GOAL 10.2 DISCUSS FISCAL PLANNING AND MANAGEMENT SYSTEMS.

Objectives
- 10.21 Describe the basic characteristics for four fiscal management plans.

GOAL 10.3 DESCRIBE THE BASIC CHARACTERISTICS OF THE STATE PLAN FOR VOCATIONAL EDUCATION FOR THE STATE IN WHICH YOU RESIDE.

Objectives
- 10.31 Describe how federal funds are maintained and audited by the state.
- 10.32 Describe the two main state criteria for allocating federal funds to state and local vocational education programs.
- 10.33 State the percentage of federal funds made available for disadvantaged, handicapped, and postsecondary persons.
- 10.34 List the instructional areas of vocational education recognized by your state.

GOAL 10.4 PREPARE THE COMPONENTS OF A PROPOSAL REQUESTING FUNDING OF A PROGRAM OR PROJECT IN VOCATIONAL EDUCATION.

Objectives
- 10.41 Prepare a statement of need.
- 10.42 Prepare objectives that describe the outcomes of the program.
- 10.43 Prepare a description of the topics to be covered in the program.
- 10.44 Describe how to prepare a plan for evaluating the success of the program.
- 10.45 Describe how to prepare a plan for the diffusion of the program.
- 10.46 Prepare a description of the required personnel and facilities.
- 10.47 Describe the three steps for preparing a description of the required budget.

Module 11: Introducing and Maintaining Innovation

This module studies in depth the process of dissemination, implementation, and utilization in the educational community. It describes four accepted models of dissemination, implementation, and utilization, and analyzes the attributes exhibited by programs that are most easily adopted. The module also describes the four common roles of the change agent, and how the change agent can organize his work so that successful innovation will occur.

GOAL 11.1 EXPLAIN THE PROCESS OF DISSEMINATION, IMPLEMENTATION, AND UTILIZATION AS A PROCESS OF CHANGE IN THE EDUCATION COMMUNITY.

Objectives

- 11.11 Define the terms used in the study of dissemination and implementation of educational programs, including the following: change agent, client, dissemination, diffusion, implementation, innovation, user, and integrated approach.
- 11.12 Describe the characteristics of people most likely to accept innovations.
- 11.13 Explain how the Innovations Evaluation Guide can be used to evaluate the benefits and costs of potential innovations.
- 11.14 List and describe at least five of the nine attributes exhibited by programs that are most easily adopted.
- 11.15 Explain the difference between an integrated approach and a sequential approach to development and dissemination.
- 11.16 Describe the four models of dissemination, implementation, and utilization.

GOAL 11.2 DESCRIBE HOW A CHANGE AGENT CAN ORGANIZE HIS WORK SO THAT SUCCESSFUL INNOVATION WILL TAKE PLACE.

Objectives

- 11.21 Describe the four roles of the change agent.
- 11.22 List and describe the six stages of the Havelock model of innovation and change.
- 11.23 Describe the four considerations for establishing a successful first encounter with clients and the community.
- 11.24 List the six danger signals that indicate a successful relationship may not be possible.
- 11.25 Describe the three ways to diagnose a client's problem or need.
- 11.26 Describe the nine mechanisms that can be used for acquiring information and relevant resources.
- 11.27 Describe the four steps that should be completed before a solution to a particular problem is decided upon.
- 11.28 List and describe the six phases in the process of individual adoption.
- 11.29 Explain how the change agent can expedite each of the six phases of the adoption process.
- 11.210 Describe six procedures to follow that help ensure that a program will be maintained.

Module 12: Managing Vocational Education Programs

Module 12 begins with a discussion of how to develop an administrative management plan for a new course: how to plan and select instructional facilities, purchase equipment, maintain an inventory of materials and equipment, prepare a budget, and select students and instructors. The module also describes the management requirements and characteristics of individualized instruction and group instruction.

GOAL 12.1 DEVELOP AN ADMINISTRATIVE MANAGEMENT PLAN FOR A NEW COURSE.

Objectives
- 12.11 Describe how to establish a schedule of classes and teachers.
- 12.12 Describe how to plan and select instructional facilities.
- 12.13 Describe how to purchase equipment.
- 12.14 Describe how to maintain an inventory of instructional materials and equipment.
- 12.15 Prepare a plan for selecting instructors.
- 12.16 Prepare a plan for selecting students.
- 12.17 Describe how to prepare a budget for a course.

GOAL 12.2 STUDY A VARIETY OF CLASSROOM MANAGEMENT SYSTEMS

Objectives
- 12.21 Describe the major management characteristics of individualized instruction and group instruction.
- 12.22 Describe the basic classroom activities necessary for effective classroom management.
- 12.23 Describe the management responsibilities of the instructor and the student.

Module 13: Basic Concepts in Educational Evaluation

Module 13 begins with a description of the social, political, and economic factors that have contributed to the development of the educational evaluation movement. It also describes the terminology used in educational evaluation and the similarities and differences between educational research and educational evaluation. The module describes four major types of evaluation and the criteria used most frequently in the evaluation of vocational education programs.

GOAL 13.1 BE AWARE OF THE SOCIAL, POLITICAL, AND ECONOMIC FACTORS THAT HAVE CONTRIBUTED TO THE DEVELOPMENT OF THE EDUCATIONAL EVALUATION MOVEMENT.

Objectives
- 13.11 Identify the major factors that have been characterized as educational evaluation in the past.
- 13.12 Identify the major events and factors that have occurred in the last two decades that have had the most pronounced effect on the educational evaluation movement.

GOAL 13.2 BE FAMILIAR WITH THE TERMINOLOGY USED IN EDUCATIONAL EVALUATION.

Objectives
- 13.21 Define educational evaluation as it is presently conceptualized.
- 13.22 Distinguish among terms that are commonly interchanged with evaluation but do not actually mean the same.

GOAL 13.3 BE AWARE OF THE SIMILARITIES AND DIFFERENCES BETWEEN EDUCATIONAL RESEARCH AND EDUCATIONAL EVALUATION.

Objectives
- 13.31 Explain the differences in techniques and purposes between educational research and educational evaluation.
- 13.32 Distinguish between everyday educational evaluation activities and systematic educational evaluation.
- 13.33 Distinguish among activities that are characterized as grading, measurement, research, and evaluation.

GOAL 13.4 BE AWARE OF THE QUALITIES AND KNOWLEDGE THAT EDUCATIONAL EVALUATORS MUST POSSESS AND THE ROLES THAT THEY MUST PLAY.

Objectives
- 13.41 Identify decision situations that require an evaluator's expertise.
- 13.42 Identify the three major roles that evaluation specialists are required to play in a decision-making context.
- 13.43 Identify the knowledge and skills that evaluation specialists must possess and use in their various roles.

GOAL 13.5 BE AWARE OF THE DIFFERENT CONCEPTIONS OF EDUCATIONAL EVALUATION AND THE PURPOSES FOR WHICH IT IS CONDUCTED.

Objectives
- 13.51 Identify the four major types or conceptions of educational evaluation.
- 13.52 Distinguish among the purposes of the four general types of evaluation.
- 13.53 List the characteristics that are part of all four types of educational evaluation.

GOAL 13.6 BE AWARE OF THE CRITERIA USED IN A DECISION-MAKING CONTEXT FOR THE EVALUATION OF VOCATIONAL EDUCATION PROGRAMS AND INSTRUCTIONAL INTERVENTIONS.

Objectives
- 13.61 List criteria that are commonly used in evaluations of vocational education.
- 13.62 Distinguish among criteria used for evaluation of vocational education and other criteria.

Module 14: General Methods and Techniques of Educational Evaluation

Module 14 describes the purpose of the four major evaluation types and the role of the evaluator in each type of evaluation. It also describes the operational steps that are required in conducting an educational evaluation using each of the prominent types of evaluation. The evaluation criteria for vocational education are described in detail.

GOAL 14.1 BE AWARE OF THE PURPOSES AND COMPONENTS OF THE PROMINENT TYPES OR MODELS FOR EDUCATIONAL EVALUATION.

Objectives

- 14.11 State the overall purpose of each of the four major evaluation types.
- 14.12 Define the role of the evaluator in each of the models or types of evaluation.
- 14.13 List the operational steps that are required in conducting an educational evaluation using each of the prominent types of evaluation.
- 14.14 Develop and list evaluative criteria for vocational education evaluation for each of the prominent evaluation types.
- 14.15 Distinguish among activities that are characterized as goal attainment evaluation, judgmental evaluation emphasizing intrinsic criteria, judgmental evaluation emphasizing extrinsic criteria, and decision-facilitation evaluation.

Module 15: Procedures for Conducting Evaluations of Vocational Education

Module 15 begins by describing the various purposes and components of decision-facilitation evaluations. It then analyzes and interprets the roles that evaluators are required to assume when conducting decision-facilitation activities. The module also describes the appropriate criteria and methodology for decision-facilitation evaluations as well as the methods for preparing decision-facilitation evaluation plans and reports.

GOAL 15.1 BE AWARE OF THE VARIOUS PURPOSES AND COMPONENTS OF DECISION-FACILITATION EVALUATIONS.

Objectives

- 15.11 List the various phases of a decision-facilitation evaluation and state the purpose for each phase.
- 15.12 List and give examples of the evaluator activities that are performed in the various phases of decision-facilitation evaluations.
- 15.13 Specify the characteristics of each type of evaluation activity and how they are related to the other evaluation activities.

GOAL 15.2 ANALYZE AND INTERPRET THE ROLES THAT EVALUATORS ARE REQUIRED TO ASSUME WHEN CONDUCTING DECISION-FACILITATION ACTIVITIES.

Objectives

- 15.21 Identify the duties and functions of the persons responsible for conducting and/or supervising the various evaluation activities.
- 15.22 Select the proper role of the evaluator in each of the decision contexts.

GOAL 15.3 BE AWARE OF AND BE ABLE TO DEVELOP OR USE APPROPRIATE CRITERIA AND METHODOLOGY FOR DECISION-FACILITATION EVALUATIONS.

Objectives

- 15.31 Identify the factors, or criteria, to consider in determining the procedures used for collecting decision-facilitation information for each of the several evaluation activities.
- 15.32 Make informed decisions regarding the kinds of data to collect and the general methods used to collect, analyze, and report that data for each of the several evaluation activities.
- 15.33 Select appropriate instruments for use in collecting evaluation information.

GOAL 15.4 BE AWARE OF THE METHODS FOR PREPARING DECISION- FACILITATION EVALUATION PLANS AND REPORTS.

Objectives

- 15.41 Identify the proper times during the course of an evaluation to submit reports to the project or program operators.
- 15.42 Prepare an evaluation plan.
- 15.43 Identify and prepare evaluation reports that will provide decision-makers with needed information about educational programs or projects.